

BikePark Wales Environmental Statement Vol.2: Appendices and Figures

.....
Chapter 6: Ecology

January 2019

FIGURES

N/A

APPENDICES:

APPENDICES	TITLE
6.1	Ecological Impact Assessment

ISSUING OFFICE
The Lodge
Caerphilly Business Park
Van Road
CAERPHILLY
CF83 3GG

029 2002 2320

info@wildwoodecology.com
www.wildwoodecology.com

ECOLOGICAL IMPACT ASSESSMENT REPORT

LAND AT BIKE PARK WALES, MERTHYR TYDFIL

BIKE PARK WALES

DOCUMENT REF: WWE18125 ECIA REV A | 04/10/2018

Client:	Bike Park Wales
Site/Job:	Land at Bike Park Wales, Merthyr Tydfil
Report title:	Ecological Impact Assessment Report
Report reference:	WWE18125 EcIA Rev A

Grid Reference:	SO 05132 03460
Survey date(s):	22 nd June 2018 (PEA); July – September 2018 (bat transect surveys and static monitoring); July 2018 – breeding bird survey; September 2018 – reptile surveys
Surveyed by:	Dr Alex Pollard MCIEEM; Dr Matt Davies MCIEEM; Ms Charlotte Poole; Ms Jody Webb
Architect/Agent:	Liam Hopkins, The Urbanists
Planning reference:	n/a

VERSIONING AND QUALITY ASSURANCE

Rev	Status	Date	Author(s)	Reviewed by	Approved by
A	Draft	24/07/2018	Alex Pollard MCIEEM Principal Ecologist		
B	Draft	26/07/2018	Alex Pollard MCIEEM Principal Ecologist		
C	EcIA Draft	04/10/2018	Alex Pollard MCIEEM Principal Ecologist		
D	EcIA Draft	12/10/2018	Alex Pollard MCIEEM Principal Ecologist		

DISCLAIMER

This document has been prepared by Wildwood Ecology Limited for Bike Park Wales solely as a Ecological Impact Assessment Report. Wildwood Ecology Limited accepts no responsibility or liability for any use that is made of this document other than by the client for the purposes for which it was originally commissioned and prepared.

The evidence which we have prepared and provided is true, and has been prepared and provided in accordance with the guidance of The Chartered Institute of Ecology and Environmental Management's Code of Professional Conduct. We confirm that the opinions expressed are our true and professional bona fide opinions.

SUMMARY

Purpose	- Wildwood Ecology was commissioned by Bike Park Wales (the client) to undertake a Preliminary Ecological Appraisal (PEA) of Land at Bike Park Wales, Merthyr Tydfil. - The site is the subject of a planning application over two phases, to provide additional resources at the site. - The first phase will include a new bike hire centre, a new small office building and catering outlet; and provision of camping pods, chalets and shepherds huts, increased parking areas and other associated works within a second phase.
Work undertaken	- A PEA was undertaken consisting of a desk study and field survey undertaken in June 2018 following the Chartered Institute of Ecology and Environmental Management (CIEEM) Preliminary Ecological Appraisal (2013) guidelines and standard Phase 1 Habitat Survey protocol (JNCC, 2010). - This survey informed the need for subsequent surveys – bat transect surveys, static monitoring, reptile surveys and breeding bird surveys. - Bat surveys followed the Bat Conservation Trust Bat Surveys for Professional Ecologists: Good Practice Guidelines (2016); an artificial refugia survey was carried out in order to determine the presence or likely absence of reptiles onsite; and a night-time assessment for nightjar was carried out in July guided by Collins et al (2007) survey methodology.
Key issues	- The development will result in impacts on the following protected species and habitats: - Nesting birds - Reptiles - Amphibians (non-EPS) - Bats - Invertebrates - Hedgehog - There may be impacts on the Abercanaid Fields SINC and Craig Gethin SINC (Phase 2 only).
Recommendations	- A compensation and mitigation plan may be required to negate the loss of some of the onsite SINC habitat within the Phase two proposals. This will be agreed with the LPA ecologist. - No trees suitable for use by roosting bats are marked for removal or works within Phase two. If this is to change, further survey will be required for bats. - The three trees marked for removal within Phase one have undergone PRF inspection surveys, with negative results, and removed under caution. - Any scrub or vegetation to be removed will be done so outside of the nesting bird season (i.e. completed between late September and late February). If this is not possible, it will only be completed following a nesting bird survey by a suitably qualified ecologist. - The Phase one works may proceed with caution for reptiles and nesting birds. - Phase two will require that a reptile mitigation strategy is agreed with the LPA, with a translocation regime, herpetofauna fencing and vegetation management in place. This strategy will also provide precautionary measures for amphibians. - If at any time, any protected species is found onsite, works will immediately cease, the animal made safe and the project ecologist consulted for advice.

Conclusions

- The full ecological impacts of the proposed development have been assessed through a series of surveys within the 2018 survey season. If all recommendations made within this report are implemented, it should be possible for there to be no impacts on protected species present onsite, or on local populations.
- There will be some impact on the adjacent and onsite SINC's due to the Phase 2 part of the proposals, however these features may be compensated for within the wider site.
- This ecological report will remain valid for a period of 2 years from the date of the last survey – i.e. until September 2020.

CONTENTS

Summary	iii
List of figures	v
List of tables	vi
1 Introduction	1
2 Methodology	3
3 Results	8
4 Interpretation and Assessment	17
5 Conclusions and Recommendations	23
6 References	25
APPENDIX I: PEA plan	26
APPENDIX II: Proposed development plan (Phase one)	27
APPENDIX III: Landscape Masterplan	28
APPENDIX IV: Survey images	29
APPENDIX V: Reptile survey guidelines	32
APPENDIX VI: Reptile Mitigation Strategy	33
APPENDIX VII: Species List	38
APPENDIX VIII: Planning policy and legislation	41
APPENDIX IX: Survey Calendar	46

List of figures

Figure 1 – Aerial image of the site (red line shows the Phase one areas; the blue line shows the Phase two boundary). Image used under licence (©2018 Google). Imagery date 16/08/2016.	1
Figure 2 – Closer aerial image of the site (red lines shows the Phase one area, blue line shows the Phase two area). Image used under licence (©2018 Google). Imagery date 16/08/2016.	2
Figure 3 – Location of reptile refugia deployed onsite (orange squares).	5
Figure 4 – Location of bat passes during the July transect survey. Blue icons demark bat passes; dotted area indicates area of early bat activity,	12
Figure 5 - Results of the August bat transect survey. Blue icons demark bat passes with the pink icon denoting visual observation of long-eared bats (x2) not picked up on the detector.	13
Figure 6 - Results of the September bat transect survey. Blue icons demark bat passes.	13
Figure 7 - Reptiles (common lizards) were found under the sheets highlighted in purple	15
Figure 8 - Location of trees with PRFs inspected	16
Figure 9 - Aerial imagery from 1945.....	18
Figure 10 - Aerial imagery from 2001.....	18
Figure 11 - Aerial imagery from 2013.....	19

Figure 12 – Reedbed pond (new) to west of site.....	29
Figure 13 – View to east over grassland/scrub at northern end of site	29
Figure 14 – Path running east-west to the western edge of the grassland part of the site.....	29
Figure 15 – Path running through the grassland/scrub area	29
Figure 16 – Scrubbier part of the grassland area with bracken and bramble present.....	29
Figure 17 – Younger growth woodland to the north-western edge of this habitat	29
Figure 18 – Western edge of woodland bounding car parking area	30
Figure 19 – Access tracks through woodland	30
Figure 20 – Typical woodland to north of main access road into site	30
Figure 21 – View to south-east offsite	30
Figure 22 – Younger growth in wetter areas of woodland to south-east	30
Figure 23 – Stream within woodland, north of main access road into site.....	30
Figure 24 – View to east (towards A470) across marshy grassland field adjacent to site.....	31
Figure 25 – Site boundary (phase one – red; phase two – blue). Purple line shows indicative fencing for area to be translocated from; yellow line shows fencing along woodland edge if translocation is permitted to neighbouring site, and to prevent reptiles present in this area from entering the development footprint.	34
Figure 26 - Development proposals with reptile mitigation areas marked on	37

List of tables

Table 1 – Sources of biodiversity and ecological records.....	3
Table 2 – Surveyor information.	6
Table 3 – Summary of designated sites in range of the site.	8
Table 4 – Summary of weather conditions during the surveys.	9
Table 5 – Habitats and linear features present onsite.	11
Table 6 – Results of the reptile survey	14
Table 7 – Results of the population size estimate.	14
Table 8 - Results of PRF study of trees marked for removal	15
Table 9 – Broad impact level of proposed development on reptiles.	21
Table 10 – Recommendations.	24

1 INTRODUCTION

- 1.1 Wildwood Ecology was commissioned by Bike Park Wales (the client) to undertake a preliminary ecological appraisal (PEA) of Land at Bike Park Wales, Merthyr Tydfil (the site) centred at grid reference SO 05132 03460.

Site description

- 1.2 The aerial image of the site (Figure 1) shows the site to consist of an area of woodland with more open areas, and access tracks running through it.
- 1.3 The site is bounded to the west by the existing Bike Park Wales site, to the north by woodland, to the east by grassland and woodland, and to the south by woodland.
- 1.4 The wider area includes a mix of woodland types on the valley sides above the River Taff. The A470 runs north-west-south-east past the site to the east, and the small towns of Abercanaid and Pentrebach are found to the east, with industrial, retail, residential and public spaces present.

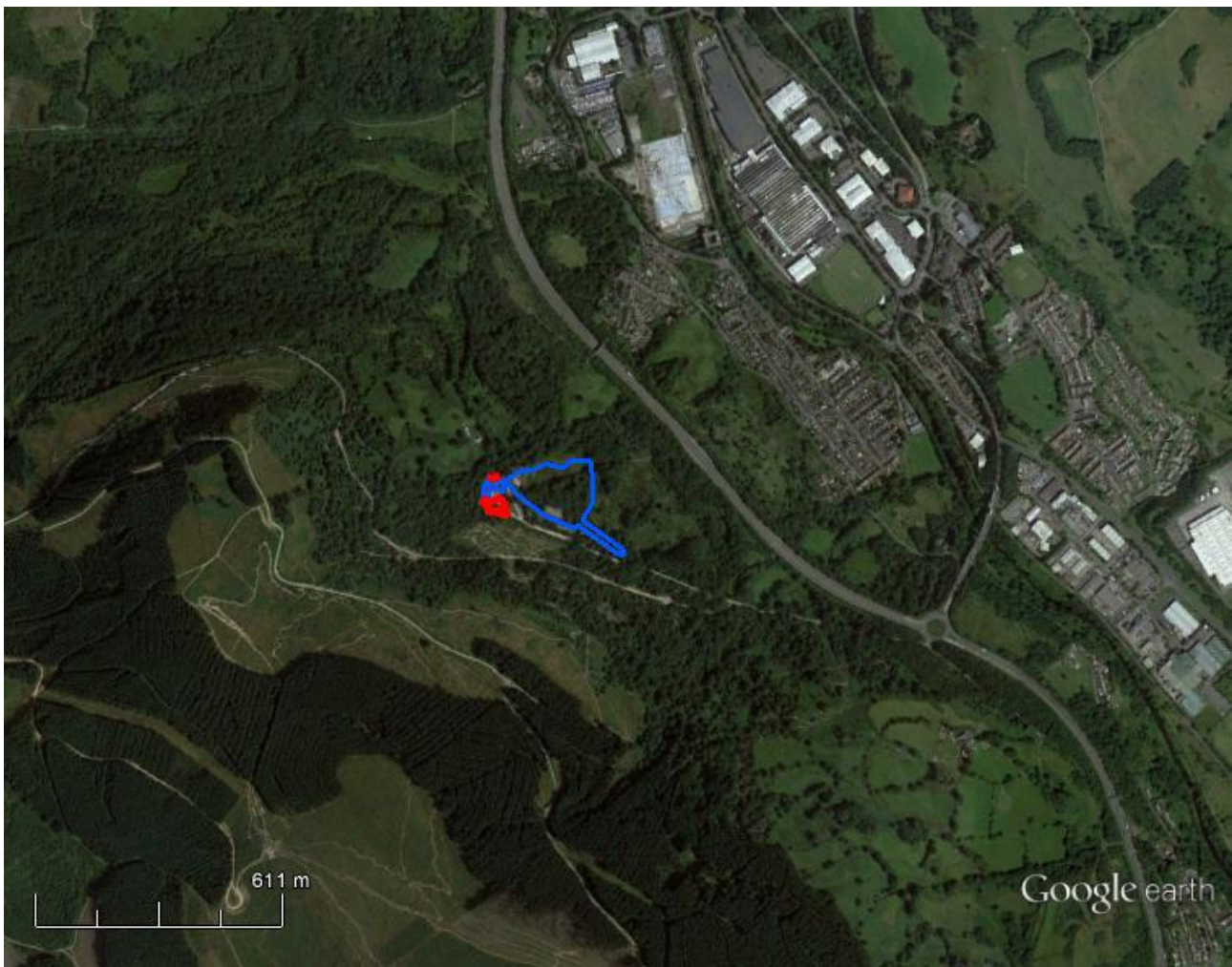


Figure 1 – Aerial image of the site (red line shows the Phase one areas; the blue line shows the Phase two boundary). Image used under licence (©2018 Google). Imagery date 16/08/2016.

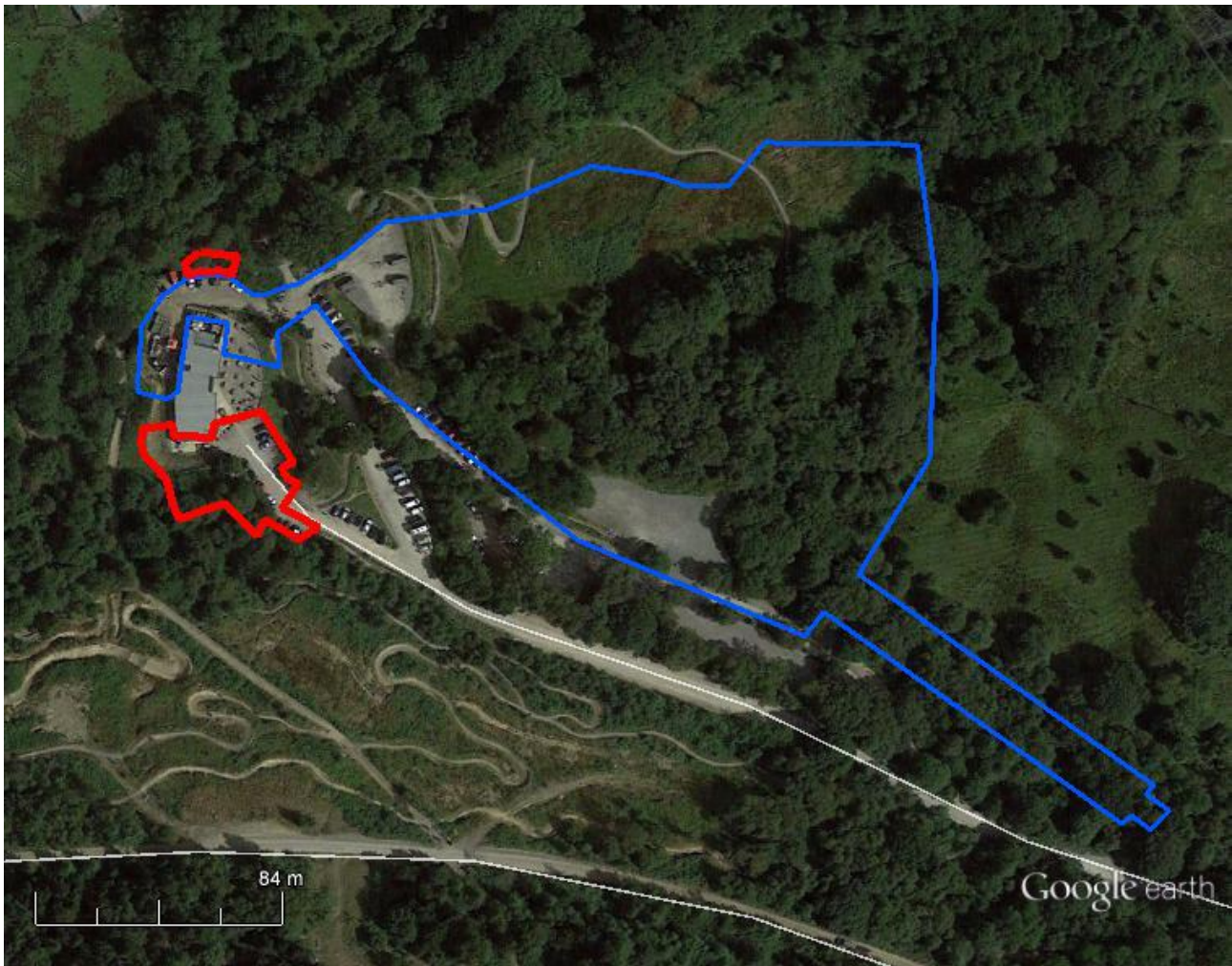


Figure 2 – Closer aerial image of the site (red lines shows the Phase one area, blue line shows the Phase two area). Image used under licence (©2018 Google). Imagery date 16/08/2016.

Proposed development

- 1.5 The site is the subject of a planning application for new bike hire and office space, catering outlet, additional parking, access and camping pod provision.

Purpose of this report

- 1.6 The purpose of this report is to provide sufficient information for the local planning authority to fully assess the potential ecological impacts of the proposed development, or to identify what further information is required before a full assessment can be made.

2 METHODOLOGY

Desk study

- 2.1 A biodiversity desk study was undertaken in relation to the site in July 2018. The sources consulted and the type of information obtained are summarised in Table 1.

Table 1 – Sources of biodiversity and ecological records.

Source	Information requested (search buffer from site centre/boundary)
Merthyr Tydfil County Borough Council	Sites of local importance/designation (1km)
Multi-Agency Geographic Information for the Countryside (MAGIC) ¹	- International statutory designations (5km) - National statutory designations (2km)

- 2.2 The search buffers are considered to be sufficient to cover the potential zone of influence (ZoI²) of the proposed development.
- 2.3 The impact of the proposed development on the biological integrity of any nearby designated protected sites has been fully considered.
- 2.4 No previous survey information was available for the site itself, though a Preliminary Ecological Appraisal was completed by Acer Ecology in May 2018 on an adjacent area of land. Data was ordered for this survey from SEWBReC and the report provided by Acer Ecology included the findings within it. As such, no further data was ordered, given the proximity to the site and time of ordering.

Field survey - PEA

- 2.5 A field survey was undertaken on 22/06/2018.
- 2.6 All habitats present within the site with the potential to support rare, protected, or otherwise notable species of flora or fauna (together with any direct signs) were noted.
- 2.7 In the context of this report, rare, protected, or otherwise notable species of flora or fauna were those considered to meet any of the following criteria:
- Species protected by UK or European legislation (see Appendix V);
 - UK Post 2010 UK Biodiversity Framework priority species or Local Biodiversity Action Plan (LBAP) species;
 - Nationally rare or nationally scarce species;
 - Species of Conservation Concern (e.g. JNCC Red List, RSPB/BTO Red or Amber Lists).
- 2.8 A PEA habitat map was drawn up incorporating target notes used to highlight features of particular ecological interest (see Appendix I).
- 2.9 The Wildlife and Countryside Act (1981) as amended, makes it an offence to release or allow to escape into the wild any animal, plant or micro-organism not ordinarily resident in the UK (as listed in Schedule 9 of the Act). Plant species listed in Schedule 9 were searched for during the survey. Examples include species such as Japanese knotweed (*Fallopia japonica*) and Himalayan balsam (*Impatiens glandulifera*).

¹ <http://magic.defra.gov.uk/MagicMap.aspx>

² ZoI definition – ‘the areas/resources that may be affected by the biophysical changes caused by activities associated with a project’ (CIEEM, 2016).

Bat activity transect

- 2.10 Bat activity transects were undertaken at the site in July, August and September alongside periods of static monitoring (at least five consecutive nights) in each month.
- 2.11 Transects commenced at the time of local sunset (source www.sunrisesunsetmap.com) and continued for approximately 2 hours after sunset. Surveyors were equipped with broadband bat detectors (Elekon BatScanner Stereo) and a recording Elekon Batlogger.
- 2.12 Static bat detectors (either an Anabat Express, an Anabat Swift or Wildlife Acoustics SM2+) were mounted and locked to trees within the central onsite woodland, adjacent to the trackway, at a height of between 2 and 2.5m.
- 2.13 Note was made of all bat activity recorded including (where appropriate) roost access points, species, time of re-entry, direction of flight, behaviour (foraging or commuting) and use of landscape features. Minimal lighting was used during the surveys as this can alter the behaviour of the bats emerging from or entering a roost, or foraging or commuting over a site.

PRF (tree) inspection

- 2.14 Trees found to have potential roost features, and earmarked for removal within the Phase one part of the proposals were investigated using an endoscope and high power torches. A note was made of the feature and its orientation.
- 2.15 Depending on the roost suitability, the potential roost features were re-examined approximately two weeks later.

Nightjar survey

- 2.16 During the July bat transect survey, a surveyor remained vigilant for churring males, wing clapping or birds in flight.
- 2.17 At any point when such behaviour is noted, the location of the behaviour and timing is noted.
- 2.18 The methodology follows an amended version of that outlined in Conway *et al* 2007.

Reptile surveys

- 2.19 No universally agreed upon methodology for surveying reptiles is currently available. Therefore, the methodology employed in this survey was adapted from the following reptile survey publications:
- Evaluation of reptile survey methodologies (1996), Report No. 200. *English Nature Research*.
 - Advice sheet 10 reptile survey: an introduction to conduction and interpreting surveys for snake and lizard conservation (1999). *Froglife*.
 - Technical Information Note TIN102, Reptile Mitigation Guidelines (2011) [withdrawn] *Natural England*.
 - Herpetofauna workers' manual (2003), *JNCC*.
 - Sewell et al. (2013) Survey protocols for British herpetofauna; Version 1.0. *Amphibian and reptile conservation; Durrell Institute of Conservation and Ecology (DICE); University of Kent; University of Sussex*.
- 2.20 The survey assumed the possible presence of all common UK reptile species (adder, common lizard, grass snake and slow worm).

- 2.21 An artificial refugia survey (ARS) was carried out in order to determine the presence or likely absence of reptile species at the site. This type of survey exploits the affinity of reptiles for microhabitats created beneath objects on the ground that are warmed by the sun. In this survey the artificial refugia used were made from roofing felt (0.5m x 0.5m); with onsite detritus (roofing felt pieces, plastic sheeting, discarded building materials) also checked.
- 2.22 A total of 37 refugia were set out over the site (see Figure 2). The refugia were placed at an approximate density of 100 per hectare, but limited to areas that were suitable for reptiles. The artificial refugia were pressed down on to vegetation in order to create a microclimate favoured by reptiles. The refugia were allowed to 'bed in' for 14 days prior to the start of the survey.
- 2.23 A total of nine separate reptile survey visits were made over a 28-day period from 27/08/2018 to 24/09/2018. In addition to this, searches were undertaken of natural refugia (e.g. stones, rocks).
- 2.24 Any reptiles observed were identified to species level and, where possible, their sex determined.
- 2.25 Surveys were undertaken at a suitable time of day and in suitable weather conditions as defined by Natural England Technical Information Note TIN102, Reptile Mitigation Guidelines (see Appendix V).

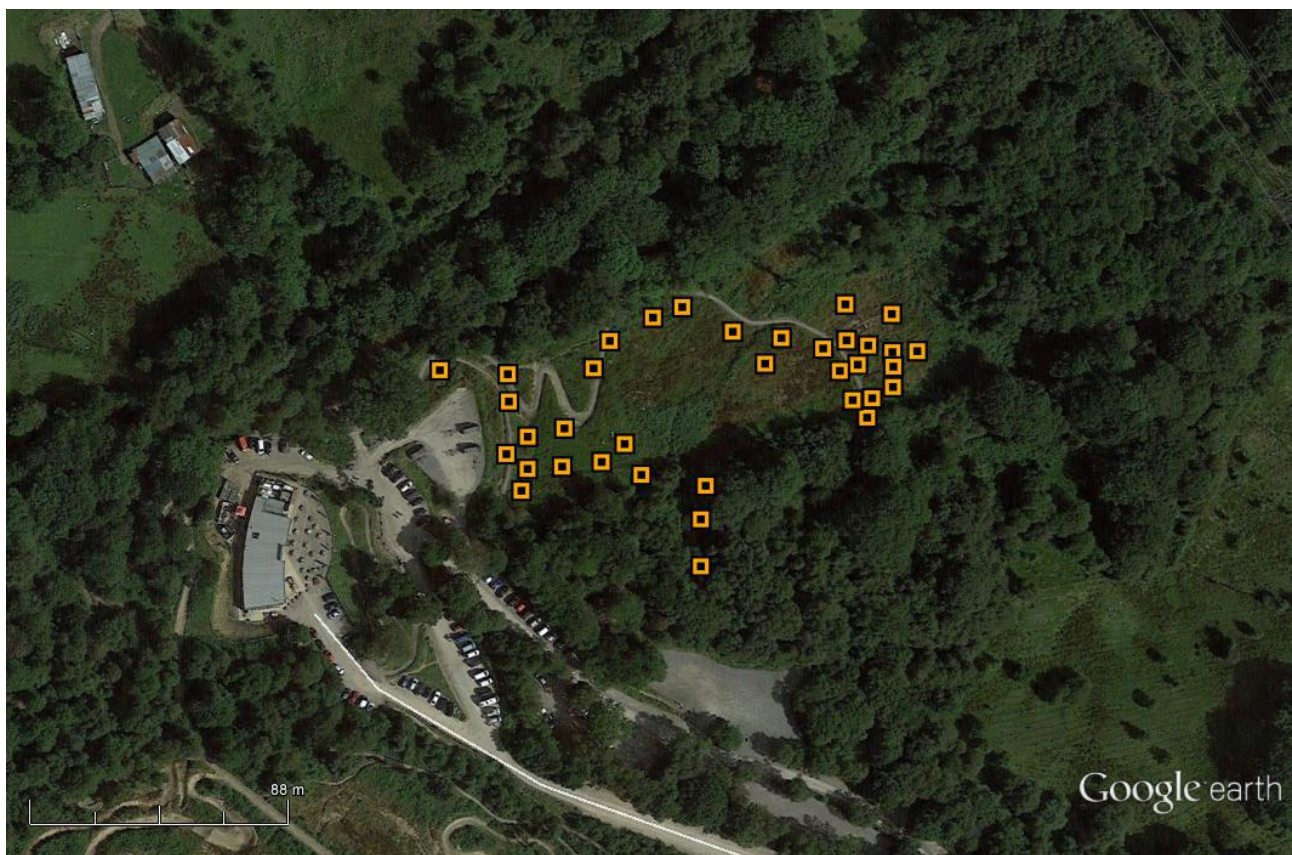


Figure 3 – Location of reptile refugia deployed onsite (orange squares).

Surveyor information

- 2.26 The surveys were undertaken by Alex Pollard, Matt Davies, Charlotte Poole and Jody Webb. See Table 2 for further information.

Table 2 – Surveyor information.

Surveyor	Licences	Ecological experience	Survey undertaken
Alex Pollard Ph.D., B.Sc. (Hons.), MCIEEM Principal Ecologist	Bat Dormouse Barn owl	Holds a Ph.D (Visual constraints in bird behaviour). Experienced in undertaking ornithological surveys, and bat surveys. Is a licensed bat and dormouse ecologist in England and Wales. Supervisor and advisor to undergraduate and postgraduate ecological research projects.	PEA; nightjar survey; bat activity transects; reptile survey
Matt Davies Ph.D., B.Sc. (Hons), MCIEEM Senior Ecologist	Bat Dormouse	Holds a Ph.D. (Chemical communication in the European otter). Knowledge of otter and mustelid ecology in general. Experienced in undertaking bat surveys and is a licensed bat ecologist in Wales and England. Experienced in undertaking common dormouse surveys and is a licenced dormouse ecologist in Wales and England.	PEA; nightjar survey; bat activity transects; reptile survey
Charlotte Poole M.Sc., B.Sc. (Hons) Assistant Ecologist	-	Holds a 2:1 Honours degree in Biology and a Masters (Conservation and Geographical Information Systems). Experience of working with ecological consultancies and local authorities as a surveyor of bats and newts.	Bat activity transects; reptile survey
Jody Webb Seasonal Ecologist	-	Has assisted on Wildwood Ecology bat surveys for several seasons; competent at bat identification using bat detectors and confident field worker.	Bat activity transects

Limitations and assumptions

- 2.27 The desk study and field survey will not produce a comprehensive list of plants and animals as this will be limited by factors that influence their presence (e.g. activity and dormancy periods). An assessment can however be made of the habitats within the survey area, their nature conservation value and potential to support protected or priority species.
- 2.28 The reptile survey was limited to indicating presence or likely absence together with a rough population estimate.
- 2.29 Results may be affected by movement of, or disturbance to, the refugia (normally by members of the public or as a result of windy conditions). Where it is possible, careful placement of refugia within relatively hidden locations can reduce this limitation. In addition, any influence of this on the results can be partially negated as the number of refugia recovered is factored into the overall estimate of population size. However, if large numbers of refugia are removed, the results will become more heavily influenced.
- 2.30 Individual reptiles were not handled during the survey in order to prevent unnecessary disturbance or distress. Therefore, it was not possible to precisely determine the age class of the animals observed. This has not affected the validity of the results, which are considered to represent an estimate of population size sufficient to assess of the effects of the proposed development and inform the design of any mitigation/enhancement recommendations in relation to the reptiles

- 2.31 The survey focused only on reptile populations within the survey area. Individuals observed within the site could be members of an expanding population or could be indicative of a small fragmented population.
- 2.32 No other limitations were encountered or assumptions made during either the desk study or the field survey and it is considered that with the access gained and recording undertaken an accurate assessment of the site's ecological value has been made.

3 RESULTS

Desk study

Designated sites (statutory)

3.1 There were no international statutory designations within 5km of the site and one national statutory designation within 2km (see Table 3).

Designated sites (non-statutory)

3.2 There were seven non-statutory designations within 1km of the site (see Table 3), two of which are found onsite.

Table 3 – Summary of designated sites in range of the site.

Site name	Designation	Description / key reason for designation	Distance & direction
Abercanaid Fields (20)	SINC	Series of fields laying either side of the A470 containing mainly species-rich semi-improved grasslands and marshy grasslands. Also some small areas of semi-natural oak/birch woodland, scattered scrub and trees. Site also includes Webber's pond, a private nature reserve with well-developed marginal emergent vegetation, a section of the Glamorganshire Canal and an adjacent disused railway embankment which supports unimproved and semi-improved acid grassland, bracken slopes and trees.	onsite
Graig Gethin (30)	SINC	Wooded ffridd slopes, supporting extensive ancient semi-natural woodland and bracken slopes with large trees, together with some scree areas supporting lichen heath. The bracken slopes support abundant bluebell. Also includes an area of wet heathland which extends along a ride within a conifer plantation and supports plant species of interest. The site supports a good range of breeding bird species and brown hare has also been recorded.	onsite
Rhydyar West (36)	SINC	Very extensive mosaic of ffridd enclosures supporting complex of semi-upland and lowland habitats, partly contained within conifer plantation. Main components are ancient semi-natural woodland fragments, other semi-natural woodlands, wet heathland, dry heathland, marshy grassland and semi-improved neutral grasslands. Also there are some bracken slopes, scrub, small ponds, streams and sections of dismantled railway. There are areas of semi-improved acid grasslands to the south especially. The habitats intergrade to form a complex mosaic, and may therefore also include some small areas of improved or low diversity semi-improved grassland, but any such areas are a very minor component. Great crested newt occurs in small pools; noctule and pipstrelle bats have both been recorded. Nationally rare and scarce invertebrates are varied and common throughout the area.	75m N
Gethin Forest (61)	cSINC	Mosaic of upland and semi upland habitats comprising conifer plantation, semi natural broad leaved, wet and replanted ancient woodland, heathland, acid grassland, water courses, stading open water, flushes and supporting scrub, neutral grassland and ffridd.	220m SW
Cwm Woods (37)	SINC	Area of ancient semi-natural woodland within a much larger conifer plantation. The grassy field layer has locally abundant bluebell. Also includes some associated areas of bracken, dry heathland, scrub, marshy grassland and acid grassland. A range of localised bird and moth species have also been recorded.	450m NW
Buarth-Waunydd (26)	SINC	Series of semi-upland ffridd fields containing a mosaic of several locally important habitats, notably acid and marshy grasslands, wet heaths, acid flushes, bracken slopes and semi-natural broadleaved woodlands. There are also areas of neutral grassland and scrub.	563m SE
Afon Taf (58)	SINC	The major river in the County Borough. Includes areas of bankside habitats, particularly towards the south where the river corridor is less industrialised than further north. Associated habitats are chiefly semi-natural woodland, including areas of ancient semi-natural woodland and linear wet woodlands. There are also numerous neutral grasslands, scrub patches and bracken stands, as well as small areas of marshy grassland and tall herb vegetation. Notable features of the river course include cobble banks which support localised plants. Otter occurs throughout the length of the river which is known to be of value to a wide variety of birds, fish, bats and reptiles.	630m E
Cwm Glo a Glyndyrys	SSSI	Cwm Glo a Glyndyrys is of special interest for its extensive areas of marshy grassland, species-rich neutral grassland and acid grassland, and for the association of these habitats with others including woodland and heath. It is also of special interest for its outstandingly diverse assemblage of grassland fungi, including 32 species of waxcap <i>Hygrocybe spp</i> , making it one of the best sites in Britain.	946m N

Priority and protected species, and adjacent survey information

- 3.3 A variety of records were highlighted as being present in the area, and returned from the local records search undertaken by Acer Ecology (2018).
- 3.4 Notable bird species – bullfinch, common crossbill, cuckoo, curlew, dunnoek, goshawk, house sparrow, kestrel, lesser redpoll, nightjar, pied flycatcher, song thrush, spotted flycatcher, starling, tree pipit, wood warbler.
- 3.5 Bats – unknown tree roost within Abercanaid Fields SINC, common pipistrelle maternity roost within the town of Abercanaid, brown long-eared hibernation roost at over 1km away, unspecified species roosts over 1km from the site. Species known to forage/commute within the locality were sommon pipistrelle, soprano pipistrelle, noctule, brown long-eared and unspecified species.
- 3.6 Great crested newts are known to be present within pools within the Rhydycar West SINC. From aerial mapping and OS maps available via Magic, these seem to be located towards the north of the SINC, approximately 1.1km away.
- 3.7 Otter are known to be present on the Afon Taf; records of common lizard, slow worm and grass snake are known within 1km of the site; marsh fritillary records are known from the nearest SSSI, Cwm Glo a Glyndyrys, found 946m to the north of the site. Additionally, hedgehog, brown hare and polecat records were also returned within the 2km search buffer.
- 3.8 Acer Ecology recorded the following species on the adjacent site: Palmate newt, willow warbler, great tit, chiffchaff, wood pigeon, dunnoek, great spotted woodpecker, blue tit, nuthatch, jackdaw, blackbird, carrion crow, tree creeper, blackcap, robin, wren, tree pipit, sparrowhawk, chaffinch, kestrel, coal tit, song thrush, long-tailed tit, pied flycatcher, buzzard, raven, goldcrest, greenfinch, spotted flycatcher, meadow pipit, green woodpecker, wood warbler, jay and goldfinch.
- 3.9 A survey for GCN was carried out within the nearby pond (approximately 300m to the east of the site) with this negative for GCN (bottle trapping and torching survey).

Field surveys

Timing and conditions

- 3.10 Prevailing weather conditions during the field survey are summarised within Table 4.

Table 4 – Summary of weather conditions during the surveys.

Survey	Date	Weather conditions			
		Temp [°C]	Cloud cover [Oktas]	Wind speed [Beaufort scale]	Rain
PEA	22/06/2018	26	0	1	Nil
Bat transect/ nightjar survey	03/07/2018	23	1	0	Nil
Bat transect	14/08/2018	17	2	1	Nil
Bat transect	12/09/2018	15	3	2	Nil
Reptile survey	27/08/2018	18	4	1	Nil
Reptile survey	31/08/2018	15	6	2	Nil
Reptile survey	04/09/2018	16	8	0	Nil
Reptile survey	07/09/2018	16	4	0	Nil
Reptile survey	12/09/2018	12.5	8	0	Nil
Reptile survey	14/09/2018	14.5	6	0	Nil
Reptile survey	19/09/2018	17	8	1	Nil
Reptile survey	21/09/2018	11	4	0	Nil

Reptile survey	24/09/2018	12.5	3	0	Nil
----------------	------------	------	---	---	-----

- 3.11 The distribution and extent of habitats observed within the site is illustrated in the PEA plan (see Appendix I). An accompanying species list (including scientific names) can be found in Appendix IV.
- 3.12 The habitats present onsite are described in detail in Table 5 using the standard Phase 1 survey habitat classification hierarchical alphanumeric reference codes (JNCC, 2010).
- 3.13 Please also refer to Table 5 for a list and description of the onsite target notes. The positions for these target notes are highlighted in the PEA plan in Appendix I.
- 3.14 The site was classified according to the following habitat types: Broad-leaved woodland, scrub, acid grassland, standing water, running water, ephemeral/short-perennial and hardstanding/paths.
- 3.15 The combination of habitats (mosaic) within the more open areas of the site are indicative of ffridd (upland fringe habitat).

Table 5 – Habitats and linear features present onsite.

Habitat type / Linear feature	Species present
<i>A1.1.1 Semi-natural, broad-leaved woodland</i> This habitat type is found from the centre of the site, southwards, and surrounding the site boundary also.	Pedunculate oak, sessile oak, ash, birch sp, willow sp, hazel, alder, sweet chestnut, common nettle, bramble, cherry, bracken, hawthorn, beech, ivy, holly, bluebell, hogweed, herb Robert, wood sorrel, sycamore, comb fern, rough meadow grass
<i>A2.1 Scrub (dense/continuous)</i> Areas of scrub are found along the woodland margins, as understorey (particularly to the south-east) and encroaching within the acid grassland area.	Yellow pimpernel, alder, hazel, ash, bramble, bracken, rowan, creeping buttercup, sowthistle, foxglove, hogweed, knapweed, heath bedstraw, common centaury, hawkbit sp, gorse, lady's mantle, hoary plantain
<i>B1.2 Semi-improved acid grassland</i> Area of acid grassland with encroaching scrub and bracken. Previously areas were plantation forestry (cleared before 2013) with successional growth.	Hedge woundwort, great willowherb, bramble, meadow thistle, Yorkshire fog, sorrel, creeping cinquefoil, hazel, alder, willow, herb bennett, silverweed, compact rush, cleavers, crested dogstail, pedunculate oak, soft rush, common nettle, red clover, ribwort plantain, creeping buttercup, catstail, figwort, cocksfoot, perennial rye grass, rosebay willowherb, creeping thistle, herb Robert, dandelion, ragwort, tormentil, purple loosestrife, jointed rush, flowering rush, square-stalked willowherb, bracken, meadowsweet, black medicks, orchid sp (<i>Dactylorhiza</i> sp.), buddleia, bird's-foot trefoil, meadow vetchling, cherry, hemp agrimony, lesser trefoil, field woodrush, white clover, spear thistle, self-heal, mare's tail, sweet vernal grass, perforate St John's wort, devil's bit scabious.
<i>G1 Standing water</i> New reedbed filtration system installed to the immediate west of the site with small area of open water present.	n/a
<i>G2 Running water</i> Drains (manmade) running through the acid grassland are present (dry during the survey); also stream and land drains within woodland to the south-east, culverted under the main access road	n/a
<i>J1.3 Ephemeral/short perennial</i> Small areas of this habitat type present around the edges of the car parks.	Daisy, hoary plantain, scarlet pimpernel

Invasive species

3.16 No stands of invasive species were noted during the survey.

Onsite fauna

3.17 The presence of the following species were observed or detected around the site during the survey: Swallow, robin, wren, dunnock, goldcrest, chiffchaff, blackcap, blackbird, magpie, nuthatch, goldcrest, chaffinch, common whitethroat, great spotted woodpecker, honeybee, meadow brown, green lacewing sp, white-tailed bumblebee, common carder-bee, common blue, small skipper, speckled brown, six-spot burnet and orange tip.

Nightjar survey

3.18 Nightjar (at least two churring males) were heard to the south-west of the site within the Gethin Forest/Graig Gethin SIN. No nightjars were heard or seen onsite during the nightjar survey, or any other survey undertaken.

Bat activity transects

3.19 Transects followed a route through the differing onsite habitats.

3.20 Species recorded during the transects were *Myotis* sp, noctule, brown long-eared, common pipistrelle and soprano pipistrelle (see Figure 3 - 5 below).

3.21 The earliest passes were noted within the central woodland (both common and soprano pipistrelle) with roosts likely to be present within the larger trees to the eastern part of this woodland (see red dotted area in Figure 3).

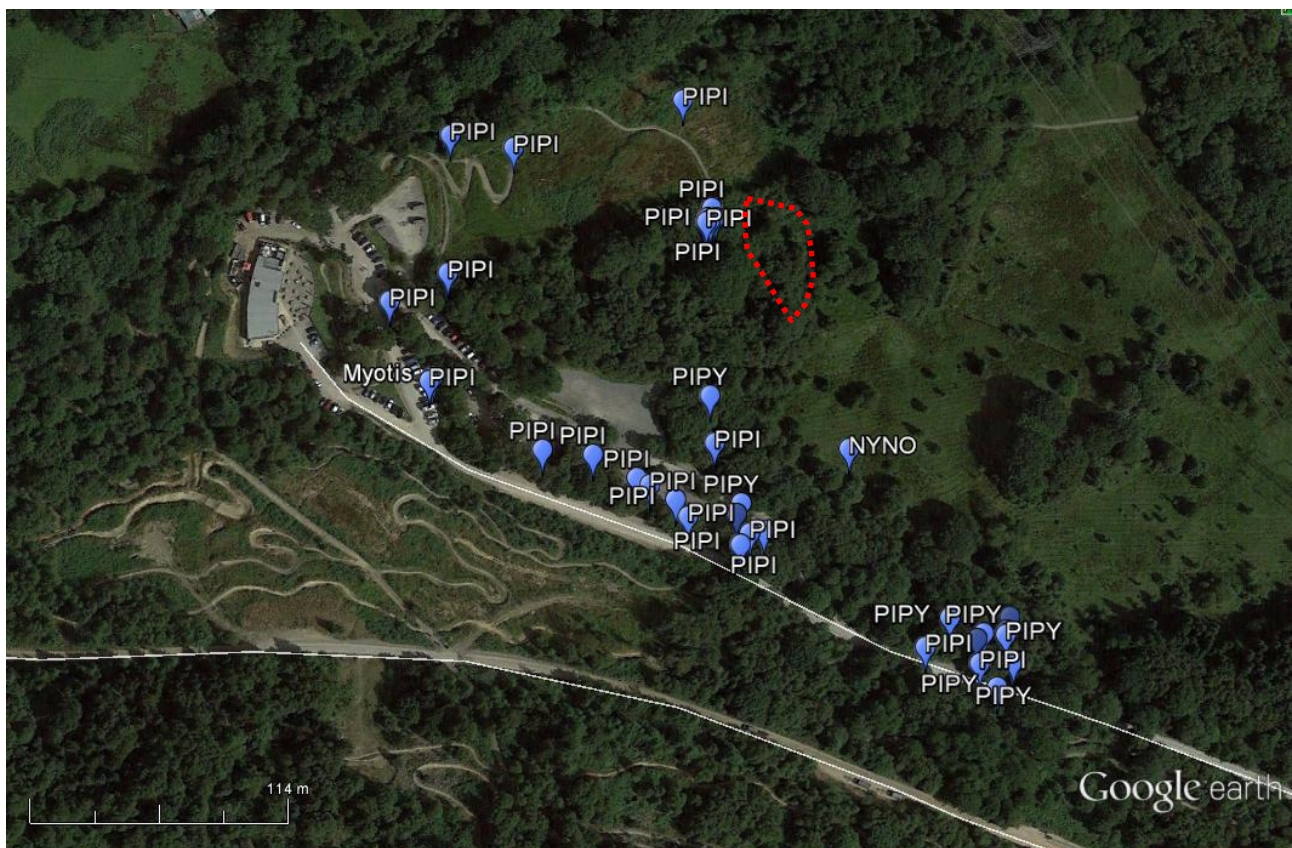


Figure 4 – Location of bat passes during the July transect survey. Blue icons demark bat passes; dotted area indicates area of early bat activity,

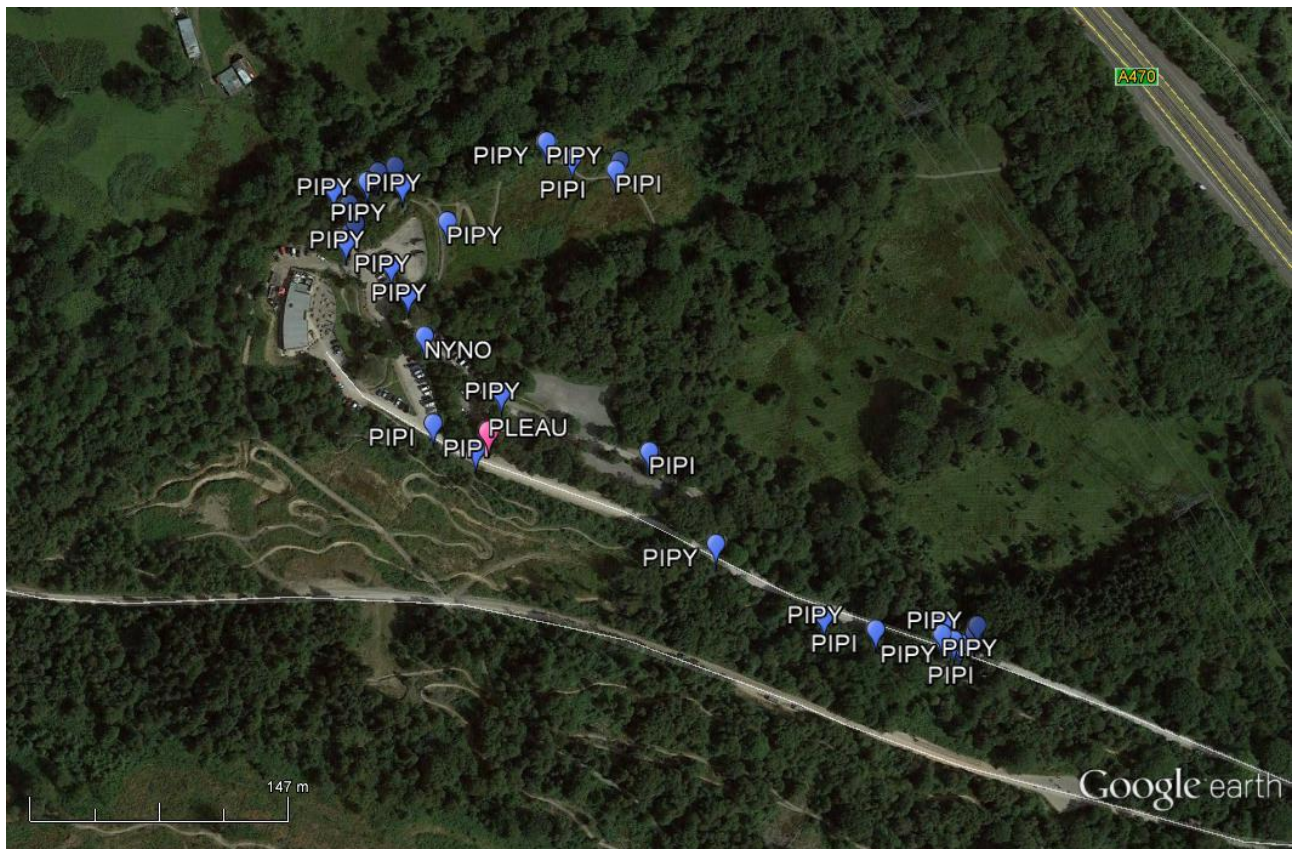


Figure 5 - Results of the August bat transect survey. Blue icons demark bat passes with the pink icon denoting visual observation of long-eared bats (x2) not picked up on the detector.

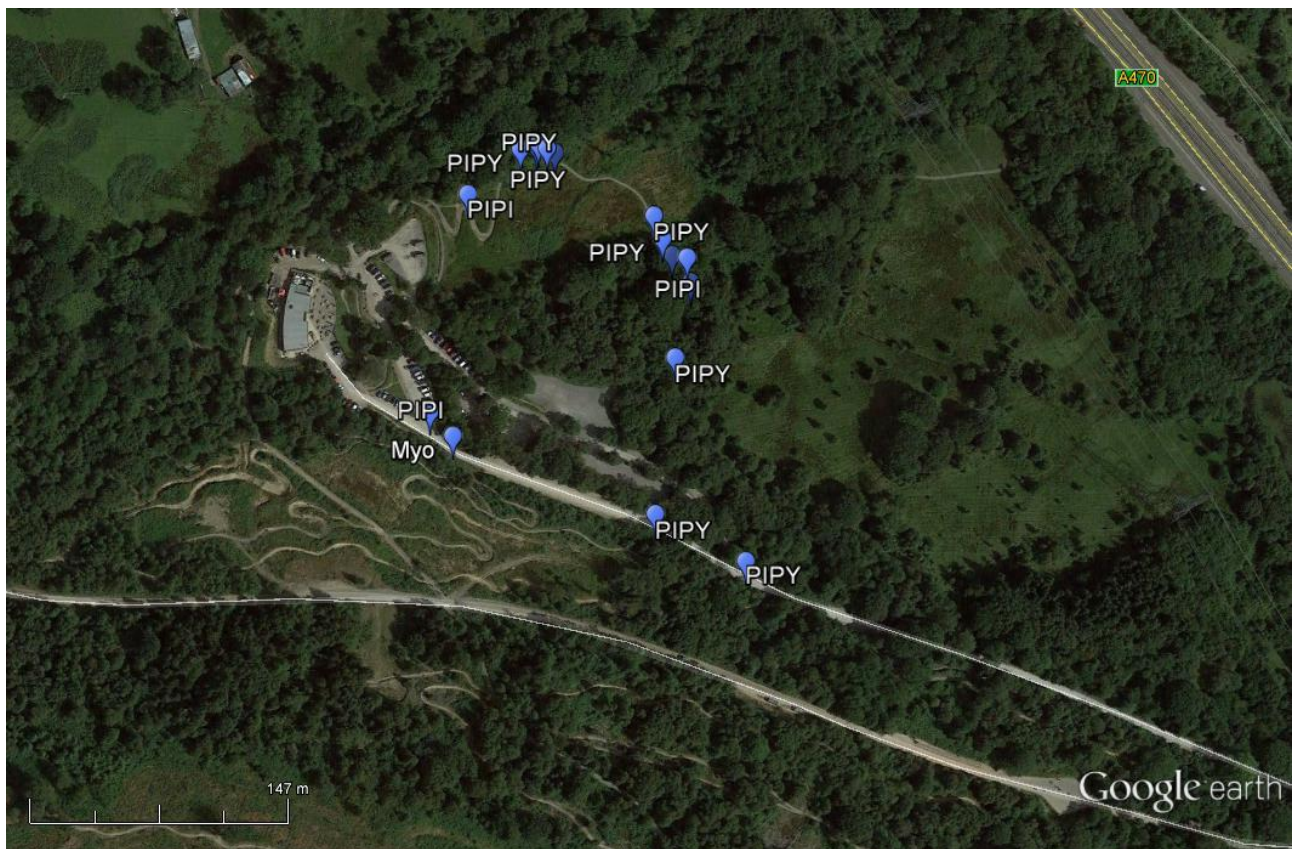


Figure 6 - Results of the September bat transect survey. Blue icons demark bat passes.

Static monitoring

- 3.22 The static bat detector recorded for 5 nights (3rd-7th) in July; 8 nights in August/Sept (31st-7th) and 6 nights (14th – 19th) in September.
- 3.23 There were several nights during the recording periods where no bat activity was recorded (3 out of 19), and several nights recordings had only a few bat calls.
- 3.24 Species recorded in July were noctule, *Myotis* sp, common pipistrelle, soprano pipistrelle and brown long-eared bat. The earliest/latest recordings were from common and soprano pipistrelles (last activity at 1 hour before sunrise; earliest at 20 minutes after sunset).
- 3.25 Species recorded in August/September were noctule, *Myotis* sp, and common pipistrelle with some pipistrelle social calls. The earliest and latest activity was from common pipistrelle at 20 minutes after sunset and 25 minutes before sunrise).
- 3.26 Species recorded in September were pipistrelle social calls and noctule, with the latest activity recorded for noctule at 30 minutes before sunrise. All other calls were recorded in the middle of the night.

Reptile survey

- 3.27 Table 6 outlines the findings of the reptile survey.

Table 6 – Results of the reptile survey

Visit	Reptiles found	Other species
1	Nil	Common toad
2	Nil	Common toad
3	Nil	Common toad
4	1 adult and 1 juvenile common lizard	Common toad
5	Nil	Common toad
6	Nil	Common toad
7	1 adult common lizard	Common toad
8	2 adult common lizard	Common toad
9	3 adult common lizard	Common toad, palmate newt

Population size estimate (reptile)

- 3.28 Table 7 summarises the results of the population size estimate based on the results of the reptile presence or likely absence survey and habitat quality.

Table 7 – Results of the population size estimate.

Reptile species	Peak count (<i>adult</i> individuals)	Population level (Natural England Technical Information Note TIN102)
Common lizard	3	medium

Endoscope and visual tree survey

- 3.29 Three trees marked for removal within the phase one scheme (an alder) and where works were identified as required in terms of safety issues (a crab apple and a birch). were found to have potential roost features.
- 3.30 Table 8 shows the results of the PRF inspections and Figure 8 illustrates their locations.

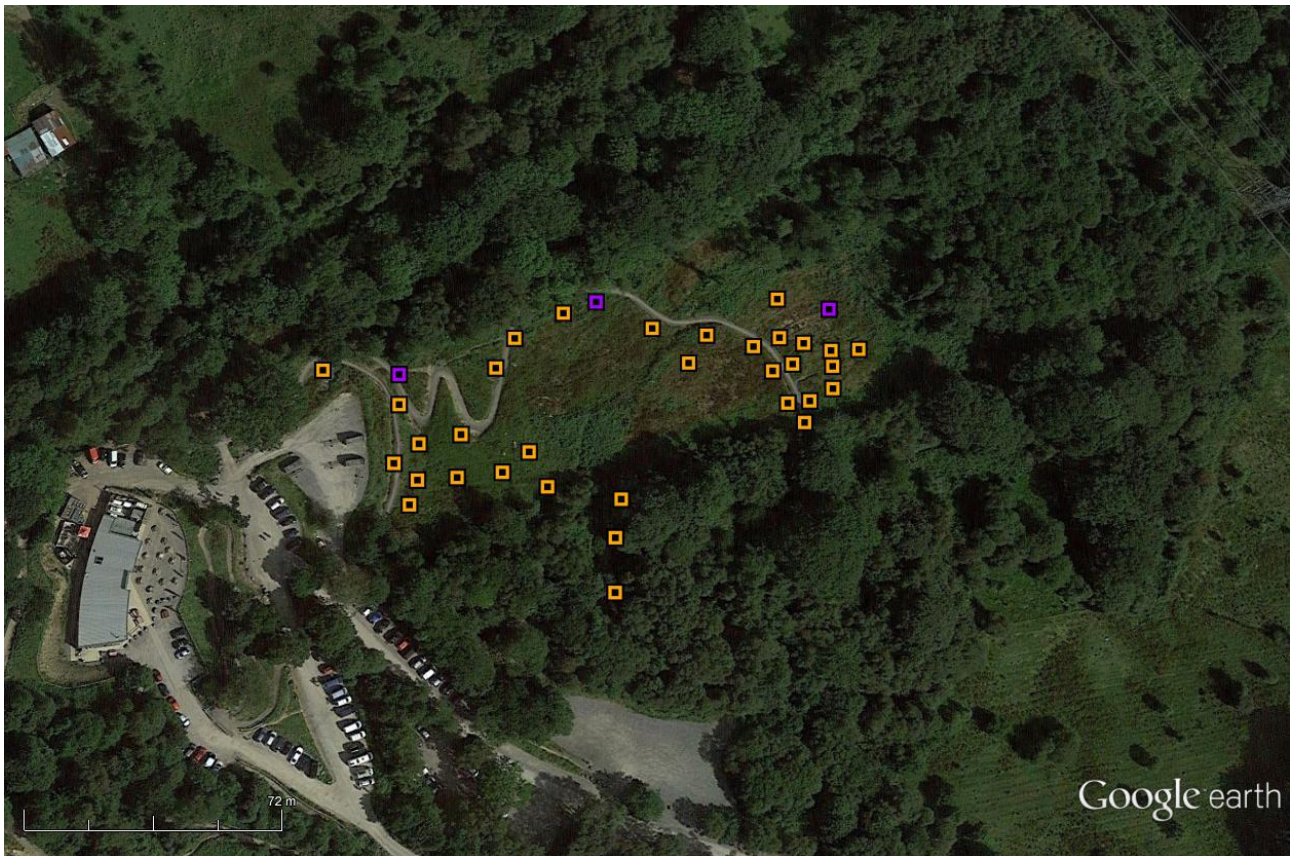


Figure 7 - Reptiles (common lizards) were found under the sheets highlighted in purple

Table 8 - Results of PRF study of trees marked for removal

Tree	Species	Findings (visit 1 – 14/08/18)	Findings (visit 2 – 27/08/18)
1	Alder	Low roost suitability – snag ends with upward facing wounds	n/a
2	Crab apple	Moderate roost suitability – cavities on south and north facing aspects (linked); extensive fungus growth (white rot) apparent. No signs of bats present, or bats themselves	As before – no bats or their signs noted
3	Birch sp	Moderate roost suitability – fluting on main stem present on all aspects. No bats or their signs observed.	As before – no bats or their signs noted



Figure 8 - Location of trees with PRFs inspected

4 INTERPRETATION AND ASSESSMENT

- 4.1 The proposed development will require displacement of onsite habitats and disturbance to their associated features. This section concerns an assessment of ecological impacts resulting from the proposed development.
- 4.2 The following interpretation and assessment is provided to ensure full compliance with both UK and European legislation and both local and national planning policy (see Appendix V).

Designated sites

- 4.3 There were both statutory and non-statutory designated sites identified within the vicinity of the site (see Table 4). The closest statutory site was Cwm Glo a Glyndyrys SSSI at 946m to the north and the closest non-statutory site were Abercanaid Fields SINC and Craig Gethin SINC (both partially onsite).
- 4.4 Given the scale of the proposed development, and the lack of likely impacts beyond the site boundary, the nearby statutory designated site is sufficiently well separated so that no impacts on their designated features are anticipated as a result of the works.
- 4.5 Abercanaid Fields SINC is designated due to the species-rich semi-improved grasslands and marshy grasslands that are present within it. The onsite portion of this SINC is predominantly woodland, which will be retained (at least in part) and so there will be limited impacts on the grassland parts of the designation, which are of arguably higher biodiversity value.
- 4.6 Craig Gethin SINC is designated due to the ffridd habitat and semi-natural woodland. As before, the part of this site that which is within the designation is wooded and has paths and access roads through. The proposals will result in a loss of some of the trees and additional open areas, potentially offering some opportunities for positive ffridd management.

Priority and protected habitats

- 4.7 The following priority habitats (as listed in Section 7 of the Environment (Wales) Act 2016) were present onsite: broadleaved woodland.
- 4.8 There is a mix of species and ages of trees present indicative of a mix of some areas being managed and some left unmanaged. Historic aerial imagery documents that the site has undergone changes in its woodland composition over the last 75 years (see Figure 9-11), with semi-natural broadleaved areas initially, then areas of plantation and scrub encroachment, then felling and scrub clearance.
- 4.9 Ffridd is not a priority or protected habitat due to it being comprised of a mix of habitat types, with a varied and dynamic composition over time. Despite this, many species and assemblages found within ffridd habitats are protected and it is these that are protected by law.

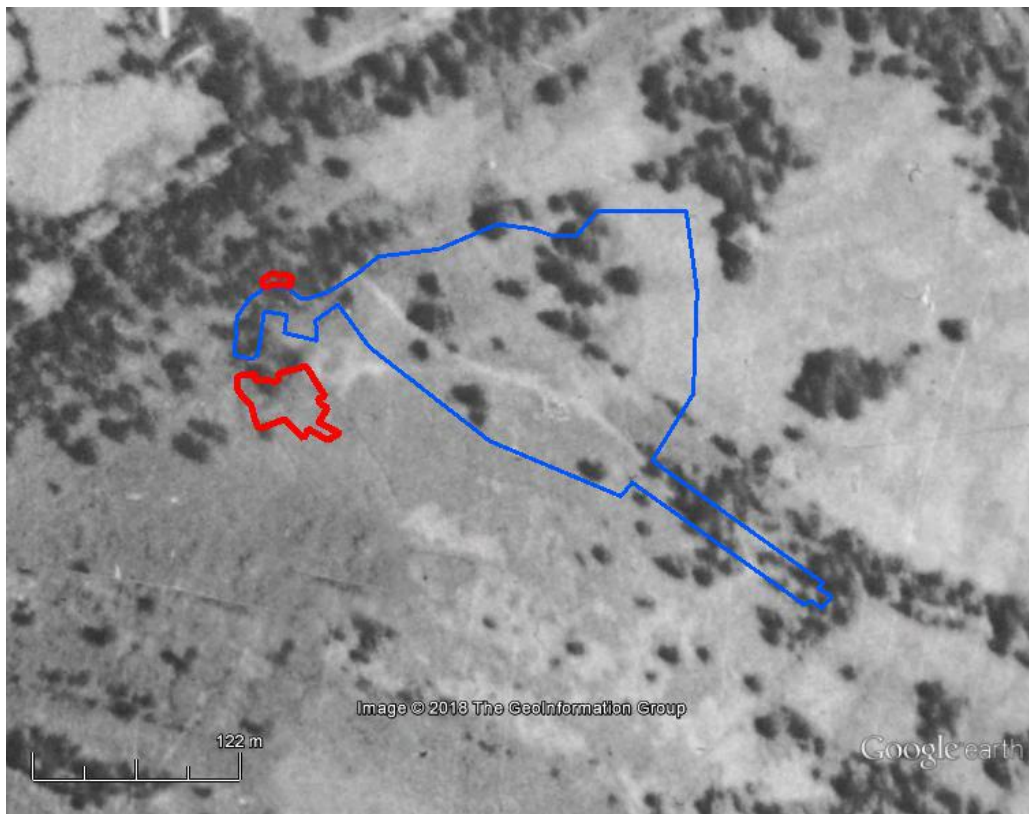


Figure 9 - Aerial imagery from 1945



Figure 10 - Aerial imagery from 2001

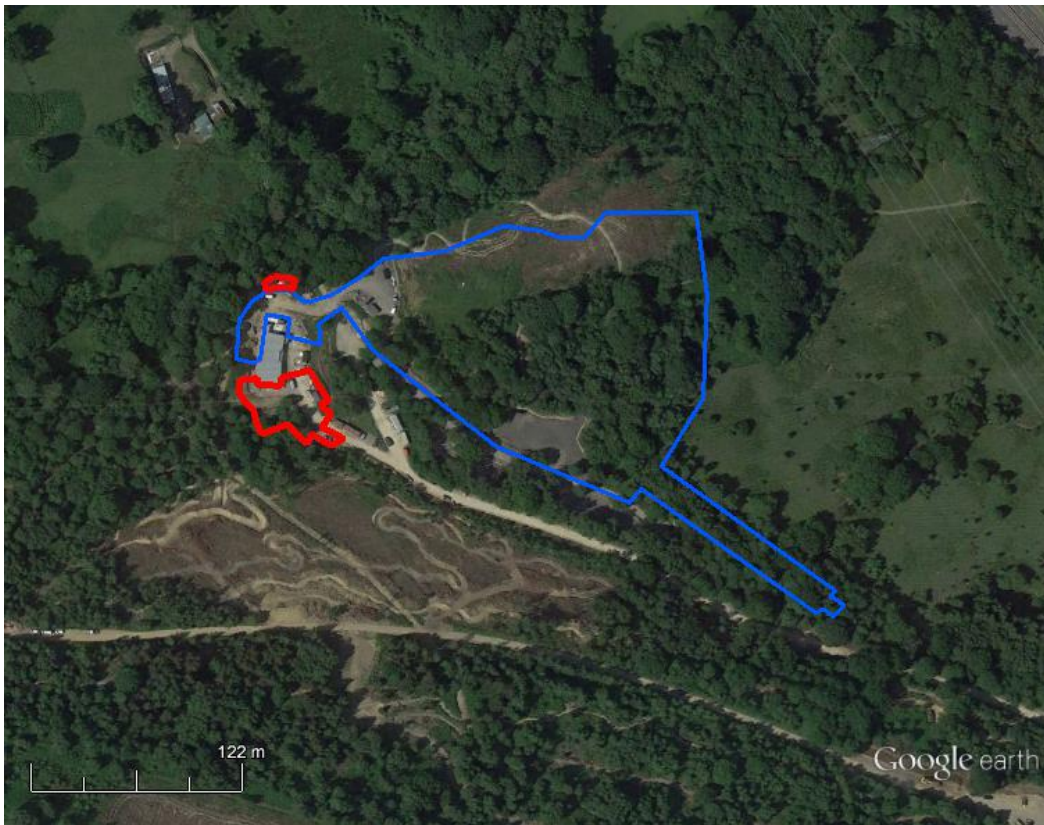


Figure 11 - Aerial imagery from 2013

Priority and protected species

4.10 The following priority species (as listed in Section 7 of the Environment (Wales) Act 2016) were present or likely to be present onsite: bats (common pipistrelle, soprano pipistrelle, brown long-eared bat, noctule, *Myotis sp*), hedgehog, polecat, otter, brown hare, tree pipit, kestrel, pied flycatcher, spotted flycatcher, dunnock, wood warbler and song thrush.

4.11 European nightjar were heard churring to the south-west of the site, but were not recorded onsite.

Bats

4.12 The earliest bats recorded during the bat transect were at 32 minutes after sunset (common pipistrelle) observed within the central woodland. Noctule bats were observed to the east of the site at 42 minutes after sunset, flying relatively low. These results suggest that there are likely to be tree roosts for these species on or near to the site.

4.13 The static monitoring surveys resulted in some quite low numbers of bat passes with some nights having few or no calls recorded. Whilst there may have been some climatic reasons i.e. higher than average wind, the overall activity of the site is low and there is no evidence of significant numbers of bats (e.g. a maternity roost) within the site.

4.14 There were a number of trees identified with crevices, gaps and features suitable for use as bat roosts within both phases. No trees with such crevices or gaps will be removed as part of the Phase two proposals, with a sensitive scheme to avoid these trees.

4.15 The trees marked for removal in Phase one were found (following two inspections of cavities and features, in two trees, and one in another) to have no bats present. Works to remove the trees were undertaken with care and inline with the BCT Guidelines (Collins, 2016).

- 4.16 There may be a minor negative impact on bat species as a result of the proposed development due to loss of foraging areas and increased disturbance at night through additional lighting (if present).

Common dormouse

- 4.17 There are habitats onsite which may support dormice – e.g. hazel, oak, bramble and ash within woodland, however there has been extensive survey for this species to the north of the site with no positive results (S. Hand, pers. comm.). No records for dormouse were returned in the Acer Ecology report.
- 4.18 There will be the removal of understorey within the woodland and woodland edges, within areas of the site that are relatively well disturbed at present. The majority of scrub habitat that is present is relatively open structured bramble with few opportunities for nesting within. There will remain crevices and gaps in larger trees for use by small mammals.
- 4.19 Given that there is a lack of dormice observations near to the site despite effort being made, there is unlikely to be a negative impact on the favourable conservation status of common dormouse as a result of the proposed development. A precautionary approach is advised with respect to dormice and any vegetation clearance works proposed.

European otter

- 4.20 The Afon Taf is known to be used by otters and there is a small tributary running along the northern part of the site (offsite) which links to the river. It is therefore possible that otter use some undisturbed and quieter areas of scrub in the local area to lie up.
- 4.21 No evidence of holts or otter use was found during the onsite surveys though precautionary methods are recommended for construction and operation with respect to otter.
- 4.22 There is unlikely to be a negative impact on European otter as a result of the proposed development.

Great crested newt and amphibians

- 4.23 The adjacent SINC (Rhydycar West) is known to support great crested newt (GCN), with other ponds in the local area also known to support other amphibian species (palmate newt). A bottle trapping and torching survey of a nearby pond (undertaken by Acer Ecology) found no GCN.
- 4.24 There are no ponds on site or directly adjacent, that are suitable for use by great crested newts at present. The reedbed pond within the site may provide suitable habitat in the future once the vegetation has become established, though it is unsuitable for breeding amphibian use currently.
- 4.25 The onsite habitats (damp acid grassland and scrub with drainage ditches), provide suitable terrestrial habitat for amphibians, with many young and adult toads noted using the grassland habitat during the bat transect surveys, and toads and a palmate newt found under reptile refugia.
- 4.26 There may be a negative impact on amphibians as a result of the proposed development (Phase two only), in the absence of mitigation for use of the site during the amphibians' terrestrial phase.

Nesting birds

- 4.27 A variety of bird species are known to use the site and local area to nest and forage within.
- 4.28 There will be impacts on nesting birds as a result of vegetation clearance, with the loss of nesting opportunities as well as loss of foraging resources. No impacts are anticipated for nightjar however, given that this species is not recorded as using the site, but more suitable habitats to the south-west.

- 4.29 The Phase one proposals will remove a small area of scrub and bare earth, with negligible potential for use by nesting birds due to the open structure and regularly disturbed location (a strip of vegetation between the access road and bike track).
- 4.30 The Phase two proposals will reduce the available nesting and foraging habitat with a loss of understorey and scrub, and grassland areas. The larger trees themselves will be retained and there will be areas of woodland in the wider site retained without disturbance.
- 4.31 There will be a negative impact on nesting bird species as a result of the proposed development (Phase two only).

Reptiles

- 4.32 The grassland and ffridd habitats to the northern part of the site offer opportunities for reptiles to hunt, bask and hibernate, given the structural diversity and mosaic that is present.
- 4.33 Species such as common lizard, slow worm and grass snake have been recorded nearby and the habitats present are likely to support these more common species of reptile.
- 4.34 The reptile survey undertaken found that the site is used by common lizard, with a likely low to medium population (based on numbers of adults and habitat quality). The abundance of tussocky sections of grass means that the numbers of lizards present onsite is likely to be higher than the numbers seen during the survey.
- 4.35 There is sufficient habitat locally for lizards to use with the surrounding ffridd and grasslands likely to be used by members of the wider population.
- 4.36 There will be a negative impact on reptiles as a result of the proposed development (Phase two only).
- 4.37 The broad impact level of the proposed development across the site on the reptile populations present is categorised (according to Natural England Technical Information Note TIN102) as 'Negative: low'. See Table 9.

Table 9 – Broad impact level of proposed development on reptiles.

Impact on population	Typical effects on reptiles and their habitats
Negative: negligible	- Minor disturbance to individual reptiles - Minor loss or damage to broad habitat
Negative: low	- Killing of small proportion of population - Fragmentation minimally affecting dispersal - Moderate damage of broad habitat - Introduction of minimal decline factors
Negative: medium	- Killing of a moderate proportion of population - Fragmentation moderately affecting dispersal - Minor damage to key habitat feature - Moderate loss of broad habitat - Introduction of moderate decline factor
Negative: high	- Killing of high proportion of population - Fragmentation seriously affecting dispersal - Loss of key habitat feature - Major loss of broad habitat - Introduction of serious decline factor

European badger

- 4.38 There were no setts, latrines, hairs or snuffle holes indicative of badger use on site. There were several mammal paths through the woodland, however these could be attributed to fox.
- 4.39 As there is a possibility of badgers being present in the wider area and coming onsite to forage or commute, there may be a negative impact on European badger as a result of the proposed development, during construction and operation, (i.e. falling into excavations) and so precautionary methods are advised.

West European hedgehog

- 4.40 The habitats present on site may support hedgehogs, though no field signs were found for this species. There will be leaf litter present after autumn and therefore suitable areas for resting are likely to be present.
- 4.41 As there is a possibility of hedgehog being present, there may be a negative impact on hedgehog as a result of the proposed development, during construction and operation, as for badger, and so precautionary methods are advised.

Invertebrates

- 4.42 The mosaic of habitats within the ffridd is known to support a wide variety of invertebrate species. A single devils' bit scabious plant was found onsite within the northern grassland, though large patches were found in the adjacent eastern field. The majority of the acid grassland/scrub mosaic to the north was relatively dense offering little opportunity for devils' bit scabious growth. Throughout the reptile surveys, this single plant was monitored for signs of use by marsh fritillary, and none were found. Dog violet was not found onsite (food plant for small pearl-bordered fritillary).
- 4.43 There are nearby areas of ffridd in the local area with species assemblages not dissimilar to those found onsite.
- 4.44 There will be a negative impact on invertebrate species at a local level, as a result of the proposed development in the short term (in the absence of mitigation), due to loss of habitat, however given the local proximity of connected similar habitat, there is unlikely to be any long term impacts on invertebrate populations at a county level.

5 CONCLUSIONS AND RECOMMENDATIONS

- 5.1 Wildwood Ecology was commissioned to undertake a Preliminary Ecological Appraisal (PEA) of Land at Bike Park Wales, Merthyr Tydfil
- 5.2 The site is the subject of a planning application for (Phase one) new office and bike hire facilities, a new catering outlet and (Phase two) to increase the parking provision, access and provide camping pods.

Designated sites

- 5.3 There will be impacts through potential loss of woodland on two SINC's that are found onsite, for the Phase two proposals, though the Phase one proposals sit outside these SINC areas.
- 5.4 The two SINC's are designated for ffridd habitat (Craig Gethin) and semi-improved grasslands and marshy grassland, with some semi-natural oak/birch woodland, scattered scrub and trees (Abercanaid Fields).
- 5.5 There will be no woodland removal as part of the Phase one proposal, with only a small area of scrub to be removed to allow for the new building. The three trees marked for removal as part of the Phase one proposal have been removed.
- 5.6 Within Phase two, there will be no removal of any large trees, though there will be a loss of understorey to allow for the new parking and camping provision. Additional new planting is proposed to provide screening, with the species planted to be of local provenance and native species only. A management plan will be implemented to ensure the survival of these plantings, and if any fail, these will be replaced like-for-like in the next winter season.
- 5.7 Root protection zones are recommended to ensure the long-term survival of the larger trees, especially within the high-traffic zones such as driveways and car parking areas.
- 5.8 Buffer zones are advised to be implemented along sensitive habitats e.g. streams, likely bat roosts and SINC's, with the extent of these to be confirmed with the LPA ecologist. The buffer zones will minimise impacts and long-term degradation on the habitats present and any protected or priority species using them by having a non-developed zone (i.e. minimising the risk of opening sensitive habitats up to detrimental edge effects) alongside these areas.

Protected species

- 5.9 Recommendations regarding protected species are shown in Table 10.

Biodiversity enhancement

- 5.10 Local Authorities have a duty (known as the 'Biodiversity and resilience of ecosystems duty') under the [Environment \(Wales\) Act 2016](#) to seek to maintain and *enhance* biodiversity in the exercise of their functions.
- 5.11 Where possible the existing onsite habitat will be retained to ensure that species are not adversely affected by the development. Native species of local provenance will be used for any new planting on the site to support The Action Plan for Pollinators in Wales, 2013 (<http://gov.wales/docs/desh/publications/130723pollinator-action-plan-en.pdf>).
- 5.12 The full extent of enhancement measures will be provided once all surveys are completed, to provide a more accurate and "tailor-made" enhancement recommendation.

Table 10 – Recommendations.

Species	Recommendations
Bats	Retain all larger trees highlighted as having suitable features for bats; seek ecological guidance for any tree works; install bat boxes (Schwegler Type 2FN x 5 – exact locations and elevations to be determined by the ecologist on the ground) within the wooded areas without bat features; retain dark corridors across the site with no lighting of any tree, vegetated corridor, water feature or bat feature (enhancement or otherwise). Any lighting will be low level, low wattage and with no upward spill, in line with the newly published guidance (ILP and BT, 2018).
Common dormouse	No further surveys required. Precautionary vegetation removal methods advised under ecological supervision. Removal to be undertaken after the bird breeding season (i.e. after mid September) with above ground vegetation only removed in the winter period, following a check by a licenced dormouse ecologist. If there are rootballs or features suitable for use by hibernating animals, these will be left in situ until temperatures regularly raise above 10°C (May). They then may be removed following a further ecologist-led check.
European otter, badger, other mammals	No further surveys required. All excavations or trenching will that are not covered will include a means of escape for any animals that may fall into them. This may be a plank set at 30° to allow escape. All chemicals will be stored safely away from any area which may be accessible to animals such as badger.
Great crested newt and amphibians	No further surveys required. Herpetofauna-proof fencing installed around the perimeter of the site prior to works being completed; precautionary works advised as per the advice for reptiles.
Reptiles	A reptile mitigation strategy is required to be agreed by the LPA planning ecologist, and then followed. Please see Appendix V for details of this.
Nesting birds	Any vegetation clearance will take place outside of the bird nesting season, i.e. after 31 st August and before 1 st March. Some species of birds are known to nest outside of these dates in suitable conditions and so caution is advised during clearance. Where any active nests are identified, these should be protected until the young have fledged. Where a Schedule 1 species (as defined in the Wildlife and Countryside Act - http://www.jncc.gov.uk/page-3614 is involved, compensation for impacts, e.g., loss of nesting sites, should be devised and implemented.
Invertebrates	No further surveys required. Compensation management is recommended, with natural regeneration of “reptile area” and overseeding with devil’s bit scabious.

Overall conclusion

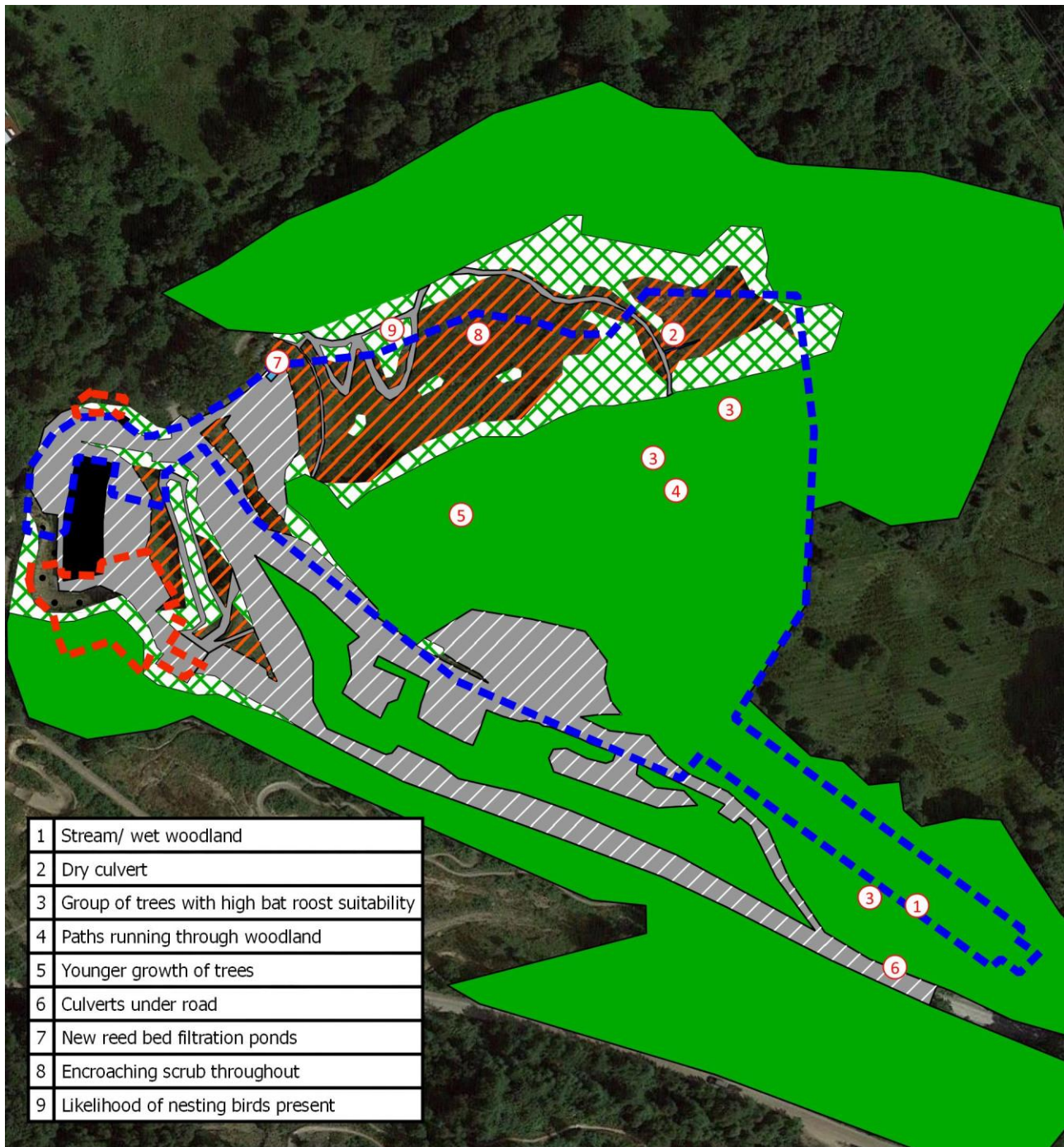
5.13 The full ecological impacts of the proposed development have been assessed after undertaking a suite of surveys at the site. If the recommendations made within this report are carried out, it is possible for there to be no major impacts on any protected species or habitat as a result of the proposals.

This ecological report will remain valid for a period of 2 years from the date of the last survey - i.e. until September 2020. Further surveys may be required to update the site information if planning is not obtained or works do not commence within this time period.

6 REFERENCES

- Collins, J. (ed.) (2016) Bat surveys for Professional Ecologists: Good Practice Guidelines (3rd edn). The Bat Conservation Trust, London.
- Conway, G., Wotton, S., Henderson, I., Langston, R., Drewitt, A. and Currie, F. (2007), Status and distribution of European Nightjars *Caprimulgus europaeus* in the UK in 2004. *Bird Study*, 54: 98-111
- Chartered Institute of Ecology and Environmental Management (April, 2013) Guidelines for Preliminary Ecological Appraisal. CIEEM, Winchester.
- Edgar, P., Foster, J., Baker, J. (2010) *Reptile Habitat Management Handbook*. Bournemouth: Amphibian and Reptile Conservation.
- Froglife (1999) Reptiles survey: *An introduction to planning, conducting, and interpreting surveys for snake and lizard conservation*. Froglife Advice Sheet 10. Froglife, Halesworth.
- Gent, T., Gibson, S. (2003) *Herpetofauna Workers' Manual*. Peterborough: Joint Nature Conservation Committee.
- Institute for Environmental Assessment (1995). Guidelines for Baseline Ecological Assessment. E & FN Spon, Hong Kong.
- Institute of Lighting Professionals and Bat Conservation Trust (2018). Bats and artificial lighting in the UK. Bats and the Built Environment series. Guidance Note 08/18
- Joint Nature Conservation Committee (2010). Handbook for Phase 1 habitat survey; A technique for environmental audit. Reprinted by JNCC, Peterborough.
- Natural England (2011) *Technical Information Note TIN102, Reptile mitigation guidelines (withdrawn)*.
- Reading, C.J., (1996) *Evaluation of Reptile Survey Methodologies*. English Nature Research Report No. 200. English Nature, Peterborough.
- Sewell et al. (2013) Survey protocols for British herpetofauna; Version 1.0. Amphibian and reptile conservation; Durrell Institute of Conservation and Ecology (DICE); University of Kent; University of Sussex.

APPENDIX I: PEA PLAN



Key



Phase one boundary

Phase two boundary

Target notes

Habitats



A.1.1 Broad-leaved woodland, semi-natural



A.2.1 Scrub, dense/continuous



B.1 Acid grassland



G.1 Standing water



G.2 Running water



J.1.3 Ephemeral/short perennial



J.3.6 Buildings



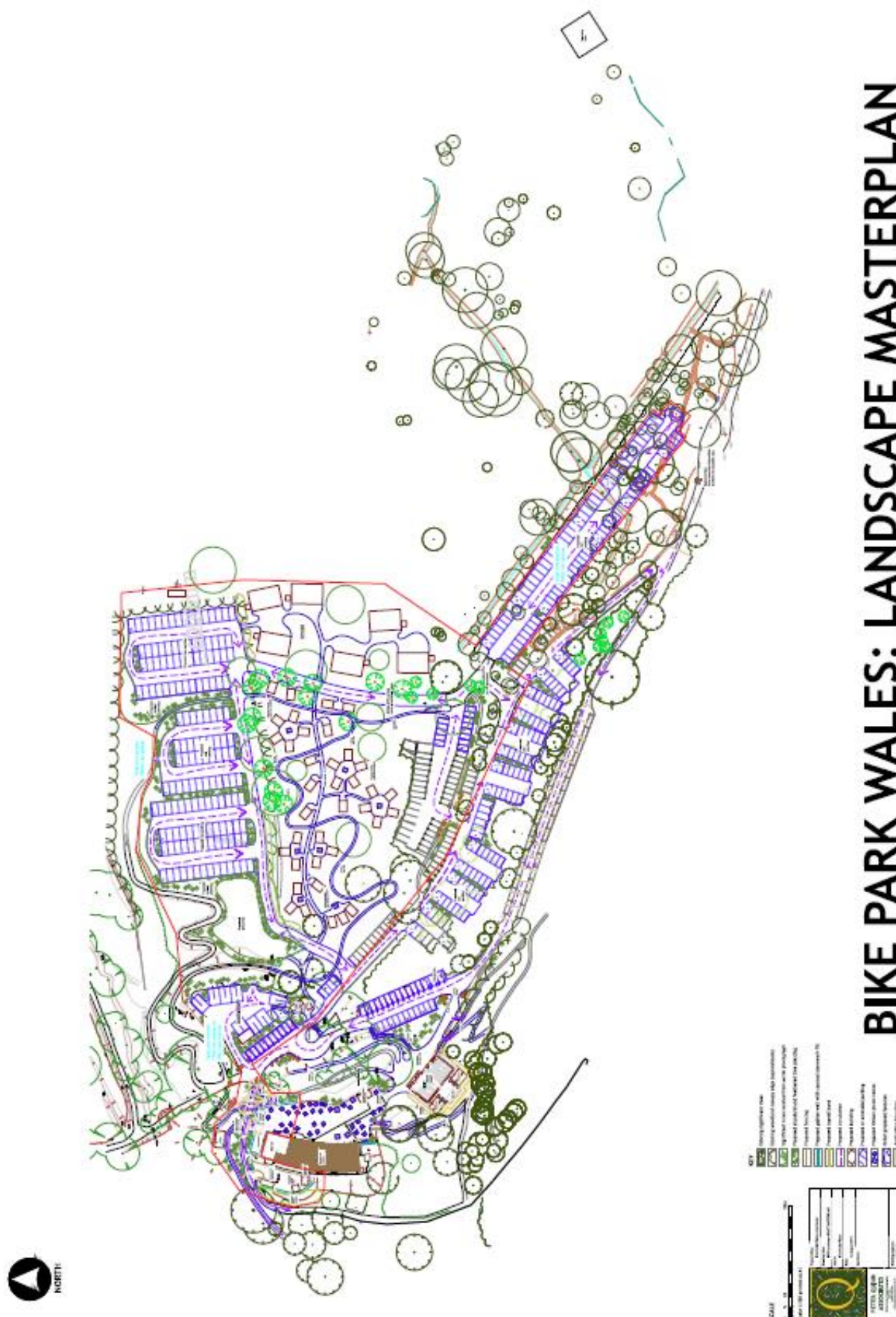
Hard standing



Path

This drawing is Copyright © Wildwood Ecology Ltd 2018. This drawing may contain: Data reproduced from Ordnance Survey digital map data © Crown Copyright 2018. All rights reserved. Licence number 0100031673. Aerial images © Getmapping Plc 2018 & © Google 2018.

BIKE PARK WALES: LANDSCAPE MASTERPLAN



APPENDIX IV: SURVEY IMAGES



Figure 12 – Reedbed pond (new) to west of site



Figure 13 – View to east over grassland/scrub at northern end of site



Figure 14 – Path running east-west to the western edge of the grassland part of the site



Figure 15 – Path running through the grassland/scrub area



Figure 16 – Scrubbier part of the grassland area with bracken and bramble present

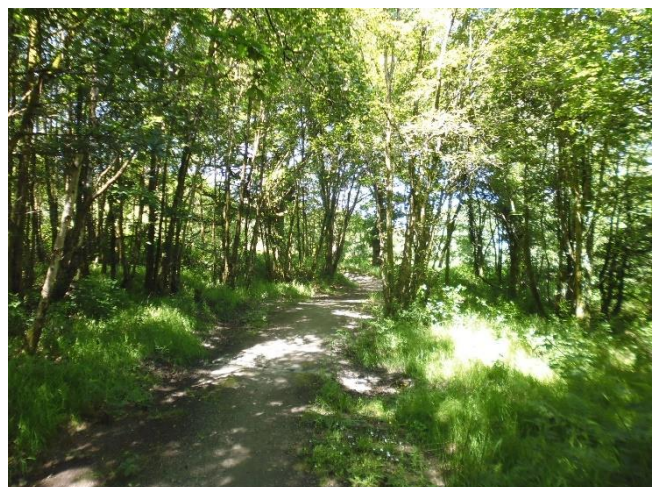


Figure 17 – Younger growth woodland to the north-western edge of this habitat



Figure 18 – Western edge of woodland bounding car parking area



Figure 19 – Access tracks through woodland



Figure 20 – Typical woodland to north of main access road into site



Figure 21 – View to south-east offsite



Figure 22 – Younger growth in wetter areas of woodland to south-east



Figure 23 = Stream within woodland, north of main access road into site



Figure 24 – View to east (towards A470) across marshy grassland field adjacent to site

APPENDIX V: REPTILE SURVEY GUIDELINES

All information is taken from Natural England Technical Information Note TIN102.

Time of day

Times will be limited to 0700 to 1800, on the condition that date and weather conditions (see below) must also be suitable throughout the duration of the survey visit.

Weather

In general, surveys should be targeted to the following weather conditions:

- Air temperature – 10-20°C;
- Wind – none to moderate;
- Precipitation – none

Season

Reptile detectability varies throughout the year dependent upon species (for all species, the optimal months are April, May and September).

Survey effort

A minimum amount of survey effort in terms of numbers of days of surveys and visits throughout the year can be calculated. Each species has a recommended number of 'minimum standard effort units', ranging from 25 to 50 (see TIN102 Table 2, Appendix IV – also provides the recommended survey methods). This is allied to 'monthly survey effort weighting' specific to a particular month across the year (see Table 3, Appendix IV). For each species the 'minimum standard effort units' figure is divided by the 'monthly survey effort weighting' in the months that the survey is proposed. This will provide a figure for the number of survey days recommended. Standards for each species can be combined into a single site survey standard.

Calculation for this survey

This survey was carried out during the months of August and September. MSEW = minimum survey effort weighting.

		Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
Slow-worm	MSEW	NR	2	5	5	5	3	2	4	2
25 (minimum effort)	Min Visits	N/A	13	5	5	5	9	13	7	13
Common Lizard	MSEW	2	3	5	5	5	4	3	5	3
30 (minimum effort)	Min Visits	15	10	6	6	6	8	10	6	10
Grass Snake	MSEW	NR	3	4	5	5	3	3	4	2
30 (minimum effort)	Min Visits	N/A	10	8	6	6	10	10	8	15
Adder	MSEW	2	4	5	4	3	2	2	4	1
30 (minimum effort)	Min Visits	15	8	6	8	10	15	15	8	30

Number of visits x MSEW =
 $7 \times 4 + 2 \times 2$ (slow worm) = 32
 $7 \times 5 + 2 \times 3$ (common lizard) = 41
 $7 \times 4 + 2 \times 3$ (grass snake) = 34
 $7 \times 4 + 2 \times 2$ (adder) = 32

APPENDIX VI: REPTILE MITIGATION STRATEGY

- 6.1 This section of the Reptile Mitigation Strategy (RMS) outlines appropriate protective measures and mitigation for reptiles at risk of harm from activities associated with site clearance and construction. The mitigation strategy consists of a phased methodology for reptile exclusion at the site. In addition, the strategy considers the needs of other protected species, and the enhancement of the receptor site (Edgar et al., 2010; Froglife, 1999, Gent & Gibson, 2003).

Enhancement of receptor habitat

- 6.2 An off-site (off-site meaning outside the development footprint) receptor site will be enhanced to compensate for the loss of habitat due to the proposed development. Enhancements will be carried out prior to any clearance works (except where cuttings/brash from these works is to be used for certain elements of the enhancement). This can be carried out following acceptance of this document by the LPA planning ecologist, and agreement with the landowner/manager.
- 6.3 A suitable receptor site (compensatory habitat) has been identified along the eastern boundary. This part of the site has habitat suitable for supporting reptile populations and is likely to have individuals from the same populations as on the site, given their adjacent locations. The habitat has connectivity into the surrounding habitat allowing reptiles to naturally disperse.
- 6.4 There will be onsite areas maintained for reptiles also, with the northern boundary edge to be managed for reptiles (removal of some denser scrub patches and allowing natural regeneration of grassland flora).
- 6.5 Enhancement, maintenance and management of these areas will be undertaken for at least five years post-development. Enhancement will include creation of hibernacula and log/brash piles (for cover, additional structure, and enhancing prey availability) – see Figure 25. There will be one hibernaculum and two log/brash piles created (e.g. <https://www.froglife.org/wp-content/uploads/2015/09/Hibernacula.pdf>).
- 6.6 These areas will be managed to ensure that the reptile habitat is enhanced and improved where possible. The adjacent site will be continued to be grazed as is currently (low density) which will benefit the reptiles as well as the anthill flora and invertebrate fauna present.

Vegetation management

- 6.7 This part of the strategy is required to encourage reptiles away from certain areas of the site and into others. Vegetation within the proposed development footprint will be cut with hand held machinery (i.e., strimmers or brush cutters) to a height of 150mm during the active reptile season (March to October) in a progressive manner from the southern part of the grassland towards the north. This is to allow reptiles to move away from the cutting edge. This process may take some time as the tussocky ground is uneven and will require a careful approach to prevent any killing or injury to protected species.
- 6.8 Then (at least 48hrs later) the vegetation will be cut again, this time down to ground level in the same progressive manner. Approximately 30% of the ground vegetation will be left at the 150mm height. The aim will be to retain 'islands' of habitat that would be more attractive to reptiles for cover. The site will be retained in this state until the translocation procedure is completed. No cuttings or chippings will be left on the development footprint but may be moved to form parts of the brash and hibernaculum areas.
- 6.9 No roots or rubble should be disturbed during the vegetation management works.
- 6.10 An experienced ecologist will supervise the vegetation management work in liaison with the groundwork contractor.

Exclusion fencing

- 6.11 Reptile-proof exclusion fencing will be erected to enclose development footprint. The fencing will be constructed from strong polythene or woven geotextile secured with wooden stakes (NB the stakes need to be placed on the construction side of the fencing). The polythene or geotextile will be installed 250mm vertically below ground and 600mm vertically above ground. The positioning of the fencing can be seen in Figure 24.

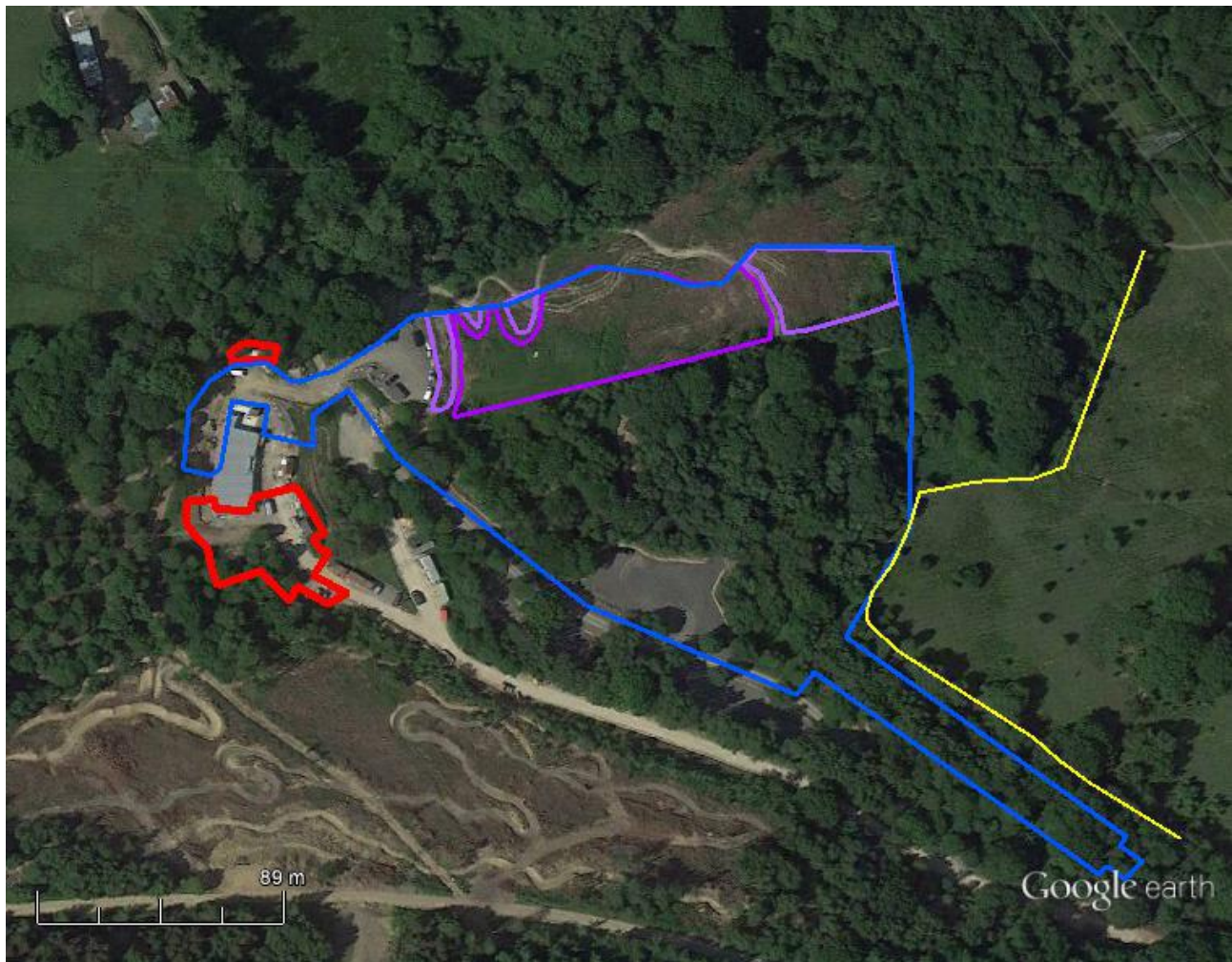


Figure 25 – Site boundary (phase one – red; phase two – blue). Purple line shows indicative fencing for area to be translocated from; yellow line shows fencing along woodland edge if translocation is permitted to neighbouring site, and to prevent reptiles present in this area from entering the development footprint.

- 6.12 The purpose of the fencing is two-fold. Firstly, to stop plant vehicles / machinery encroaching on known reptile habitat and secondly, to prevent reptiles from accessing the onsite habitat from offsite positions and, in this way, avoid killing or injury of protected species.
- 6.13 The fencing will be installed on completion of the vegetation strimming (as outlined above). A small, tracked excavator (mini digger) will be used to dig the trench and to back-fill over the fencing. The fencing will be maintained throughout the capture/translocation procedure. Some hand digging may be required as directed by the contractor.
- 6.14 There will be no other vehicles accessing the grassland area until after the reptile translocation is complete.

- 6.15 The erection of fencing will begin as soon as vegetation manipulation is complete. This will be advised by an experienced ecologist in liaison with the groundwork contractor and will be maintained in position until the completion of the proposed development (or until approved by an ecologist).
- 6.16 The layout of the fencing in Figure 24 allows for the existing tracks to be maintained, however if this is not required, a simpler fencing design may be used with the same aims.

Use of refugia and translocation

- 6.17 In order to facilitate the capture of reptiles, a mixture of artificial refugia types (squares of black bituminous roofing felt (0.5m x 0.5m and 1.0m x 0.5m) and sections of bitumen corrugated sheeting (1.0m x 0.5m)), will be placed across the site. Froglife Advice Sheet 10 (Froglife, 1999) states for general reptile survey purpose a density of 5–10 refugia per hectare is advisable. However, Technical Information Note TIN102, Reptile mitigation guidelines (2011) [withdrawn] suggests a significantly higher refuge density of 500 per hectare (ideally 1000 per hectare where conditions indicate this is merited). As a compromise between these two standpoints, a refuge density of 200 per hectare will be used. As the site measures approximately 0.6 hectares, a total of 120 refugia will be deployed onsite. A high refuge density is likely to produce more rapid population depletion.
- 6.18 Refugia will be deployed as soon as vegetation management is complete and left to 'bed in' for a period of at least 14 days prior to the start of the capture/translocation procedure. The optimal months for the capture/translocation process are April, May and September and so the refugia will be deployed at least 14 days prior to the start of April 2019, at the earliest.
- 6.19 Following the 'bedding in' period, the capture/translocation procedure will begin. Up to twice-daily site visits will be undertaken. Refugia will be searched for reptiles that may be either basking on top or sheltering underneath. This will be carried out under appropriate weather conditions.
- 6.20 Data comprising date and time of capture, species caught, plus sex and life stage will be gathered. Reptiles will be caught by hand and placed into a secure container lined with vegetation before being transported to the enhanced receptor site. Animal welfare will be maintained at all times in order to avoid undue stress. Other species (toad, palmate newt) if encountered will also be translocated to suitable areas.
- 6.21 In addition, to the searches of the artificial refugia, a search of natural refugia (e.g., rocks and stones) and anthropogenic refugia (discarded rubbish) will also be undertaken if present.
- 6.22 The capture/translocation of reptiles will continue until a series of 'nil returns' or 'no reptiles recorded' is achieved, or until such time as a 'reasonable capture effort' has been made (this will be determined by the project ecologist in consultation with the LPA planning ecologist). Consecutive nil returns after five visits may be appropriate.
- 6.23 To allow sufficient capture time, the translocation procedure will begin as soon as possible in April 2019 (though the Phasing plans may not require this until later).
- 6.24 A suitably qualified ecologist will undertake a fingertip search of the retained 'islands' of vegetation (together with any vegetation that could not be removed without encroaching onto the reptile habitat with larger machines) prior to their removal. Additionally, all retained and remaining vegetation will be checked for nesting birds.
- 6.25 Vegetation will be controlled and the fencing will remain in-situ and be maintained in a good condition until the proposed development at the site commences. This will be the responsibility of the client and

their contractors. Removal of the fencing will only be undertaken once site clearance and construction works are complete.

- 6.26 The translocation process will 'aim' to be completed by the end of May, however, this cannot be guaranteed and is dependent upon the numbers of animals still being captured. Translocation will continue only ultimately until the mid-September as any translocated animals would need a period of time in which to settle into the receptor site prior to the hibernation season.

Construction works

- 6.27 The proposed development will commence only after a series of 'nil returns' or 'no reptiles recorded' is achieved, or until such time as a 'reasonable capture effort' has been made (this will be determined by the project ecologist in consultation with the local authority ecologist).
- 6.28 The reptile fencing will remain in place throughout the construction process. The client and their contractors will be responsible for maintaining the integrity of the fencing throughout this period.

Post-construction

- 6.29 Following completion of all onsite works, the reptile fencing will be removed.
- 6.30 The new habitat in the receptor site will be managed post-development (see previous section – 'Enhancement of new habitat' for further details). Management of the receptor site will be carried out for at least five years post-development.
- 6.31 In addition, monitoring of the translocated reptile population at the receptor site will be undertaken by a suitably qualified ecologist and in liaison with the landowner. This will comprise:
- A reptile survey in Years 1 and 3 following completion of the proposed development. A total of 50 artificial refugia will be set out within the receptor site along the boundary with the site, and checked monthly throughout the active season.
 - Data collation and reporting: at the end of each season (Years 1 and 3), data will be collated and a status report produced.
- 6.32 All records from monitoring and the translocation will be submitted to the South East Wales Biodiversity Records Centre (SEWBReC).

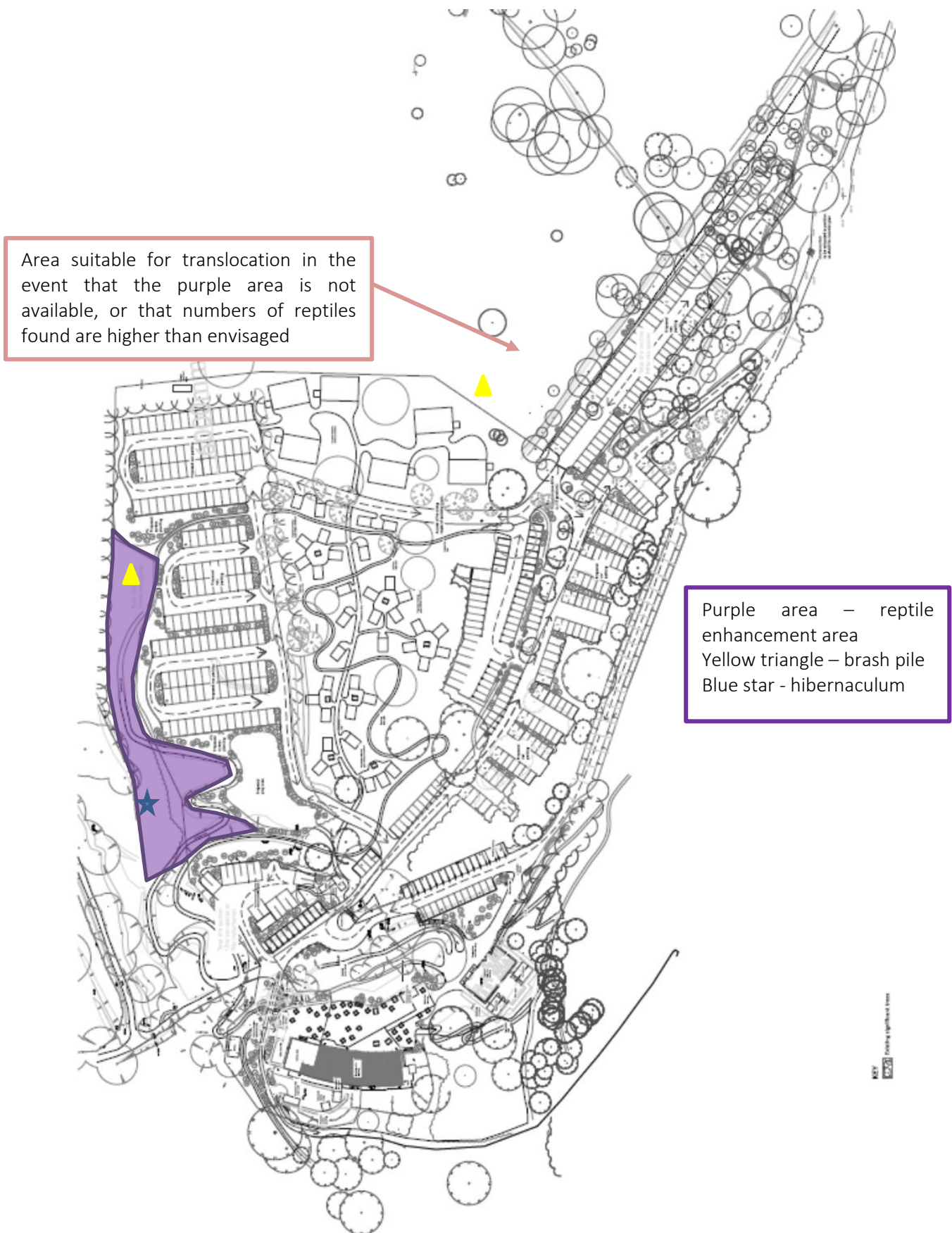


Figure 26 - Development proposals with reptile mitigation areas marked on

APPENDIX VII: SPECIES LIST

To be submitted to the appropriate Local Records Centre

Site Name: Land at Bike Park Wales, Merthyr Tydfil **Provided by:** Wildwood Ecology Ltd
Grid ref: SO 05132 03460 **Verified by:** Alex Pollard

Common name	Scientific Name (if known)	Number	Comment
Common pipistrelle	<i>Pipistrellus pipistrellus</i>		Passes, detector records
Soprano pipistrelle	<i>Pipistrellus pygmaeus</i>		Passes, detector records
Noctule	<i>Nyctalus noctula</i>		Passes, detector records
Brown long-eared bat	<i>Plecotus auritus</i>		Passes, detector records
<i>Myotis</i> sp	<i>Myotis</i> sp		Passes, detector records
Common lizard	<i>Zootoca vivipara</i>	Max 3 adults	Under reptile sheets
Common toad	<i>Bufo bufo</i>	Max 20 juveniles	Under reptile sheets
Palmate newt	<i>Lissotriton helveticus</i>		Under reptile sheet
Fox moth	<i>Macrothylacia rubi</i>		Caterpillars under reptile sheets
Tawny owl	<i>Strix aluco</i>	2+	Calling during bat surveys, inc chicks
Nightjar	<i>Caprimulgus europaeus</i>	2+	To the south west, churring males
Hedge woundwort	<i>Stachys sylvatica</i>		
Great willowherb	<i>Epilobium hirsutum</i>		
Bramble	<i>Rubus fruticosus</i> agg.		
Meadow thistle	<i>Cirsium dissectum</i>		
Yorkshire fog	<i>Holcus lanatus</i>		
Sorrel	<i>Rumex</i> sp		
Meadow vetchling	<i>Lathyrus pratensis</i>		
Creeping cinquefoil	<i>Potentilla reptans</i>		
Hazel	<i>Corylus avellana</i>		
Willow	<i>Salix</i> spp.		
Herb bennet	<i>Geum urbanum</i>		
Silverweed	<i>Potentilla anserina</i>		
Compact rush	<i>Juncus conglomeratus</i>		
Cleavers	<i>Galium aparine</i>		
Crested dogstail	<i>Cynosurus cristatus</i>		
Pedunculate oak	<i>Quercus robur</i>		
Soft rush	<i>Juncus effusus</i>		
Common nettle	<i>Urtica dioica</i>		
Red clover	<i>Trifolium pratense</i>		
Ribwort plantain	<i>Plantago lanceolata</i>		
Creeping buttercup	<i>Ranunculus repens</i>		
Cat's-tail	<i>Phleum bertolonii</i>		
Figwort	<i>Scrophularia nodosa</i>		
Cocksfoot	<i>Dactylis glomerata</i>		
Perennial rye grass	<i>Lolium perenne</i>		
Rosebay willowherb	<i>Chamerion angustifolium</i>		
Creeping thistle	<i>Cirsium arvense</i>		
Herb Robert	<i>Geranium robertianum</i>		
Dandelion	<i>Taraxacum officinale</i> agg.		
Ragwort	<i>Senecio jacobaea</i>		

Tormentil	<i>Potentilla erecta</i>		
Purple loosestrife	<i>Lythrum salicaria</i>		
Jointed rush	<i>Juncus articulatus</i>		
Flowering rush	<i>Butomus umbellatus</i>		
Square-stalked willowherb	<i>Epilobium tetragonum</i>		
Bracken	<i>Pteridium aquilinum</i>		
Meadowsweet	<i>Filipendula ulmaria</i>		
Black medicks	<i>Medicago lupulina</i>		
Orchid sp (Dactylorhiza sp).	<i>Dactylorhiza sp</i>		
Buddleia	<i>Buddleia davidii</i>		
Bird's-foot trefoil	<i>Lotus corniculatus</i>		
Cherry	<i>Prunus sp</i>		
Hemp agrimony	<i>Eupatorium cannabinum</i>		
Lesser trefoil	<i>Trifolium dubium</i>		
Field woodrush	<i>Luzula campestris</i>		
White clover	<i>Trifolium repens</i>		
Spear thistle	<i>Cirsium vulgare</i>		
Self-heal	<i>Prunella vulgaris</i>		
Mare's tail	<i>Hippuris vulgaris</i>		
Sweet vernal grass	<i>Anthoxanthum odoratum</i>		
Perforate St John's wort	<i>Hypericum perforatum</i>		
Devil's bit scabious.	<i>Succisa pratensis</i>		
Yellow pimpernel	<i>Lysimachia nemorum</i>		
Scarlet pimpernel	<i>Anagallis arvensis subsp. arvensis</i>		
Ash	<i>Fraxinus excelsior</i>		
Rowan	<i>Sorbus aucuparia</i>		
Sowthistle	<i>Sonchus sp</i>		
Foxglove	<i>Digitalis purpurea</i>		
Hogweed	<i>Heracleum sphondylium</i>		
Knapweed	<i>Centaurea nigra</i>		
Heath bedstraw	<i>Galium saxatile</i>		
Common centaury	<i>Centaureum erythraea</i>		
Hawkbite sp	<i>Leontodon sp</i>		
Gorse	<i>Ulex europaeus</i>		
Lady's mantle	<i>Alchemilla mollis</i>		
Hoary plantain	<i>Plantago media</i>		
Pedunculate oak	<i>Quercus robur</i>		
Sessile oak	<i>Quercus petraea</i>		
Birch sp	<i>Betula sp</i>		
Alder	<i>Alnus glutinosa</i>		
Crab apple	<i>Malus sylvestris</i>		
Sweet chestnut	<i>Castanea sativa</i>		
Hawthorn	<i>Crataegus monogyna</i>		
Beech	<i>Fagus sylvatica</i>		
Ivy	<i>Hedera helix</i>		
Holly	<i>Ilex aquifolium</i>		
Bluebell	<i>Hyacinthoides non-scripta</i>		
Wood sorrel	<i>Oxalis acetosella</i>		
Sycamore	<i>Acer pseudoplatanus</i>		
Rough meadow grass	<i>Poa trivialis</i>		
Swallow	<i>Hirundo rustica</i>		
Robin	<i>Erithacus rubecula</i>		
Wren	<i>Troglodytes troglodytes</i>		
Dunnock	<i>Prunella modularis</i>		

Goldcrest	<i>Regulus regulus</i>		
Chiffchaff	<i>Phylloscopus collybita</i>		
Blackcap	<i>Sylvia atricapilla</i>		
Blackbird	<i>Turdus merula</i>		
Magpie	<i>Pica pica</i>		
Nuthatch	<i>Sitta europaea</i>		
Goldcrest	<i>Regulus regulus</i>		
Chaffinch	<i>Fringilla coelebs</i>		
Common whitethroat	<i>Sylvia communis</i>		
Great spotted woodpecker	<i>Dendrocopos major</i>		
Honeybee	<i>Apis mellifera</i>		
Meadow brown	<i>Maniola jurtina</i>		
Green lacewing sp	<i>Chrysoperla sp</i>		
White-tailed bumblebee	<i>Bombus lucorum</i>		
Common carder-bee	<i>Bombus pascuorum</i>		
Common blue	<i>Polyommatus icarus</i>		
Small skipper	<i>Thymelicus sylvestris</i>		
Speckled wood	<i>Pararge aegeria</i>		
Six-spot burnet	<i>Zygaena filipendulae</i>		
Orange tip	<i>Anthocharis cardamines</i>		

APPENDIX VIII: PLANNING POLICY AND LEGISLATION

The following local and national planning policy and both primary and European legislation relating to nature conservation and biodiversity status are considered of relevance to the current proposal.

- Planning and biodiversity

Local Authorities have a requirement to consider biodiversity and geological conservation issues when determining planning applications under the following planning policies.

Planning Policy Wales (2016) and Technical Advice Note 5 (2009)

Planning Policy Wales (Edition 9, November 2016) sets out the land use planning policies of the Welsh Government, with Chapter 5 dealing with Conserving and Improving Natural Heritage and the Coast. The advice contained within Planning Policy Wales (PPW) is supplemented for some subjects by Technical Advice Notes (TAN's).

TAN 5 (Welsh Government, 2009) specifically provides advice about how the land use planning system should contribute to protecting and enhancing biodiversity and geological conservation. The TAN provides advice for local planning authorities on the key principles of positive planning for nature conservation; nature conservation and Local Development Plans; nature conservation in development management procedures; development affecting protected internationally and nationally designated sites and habitats; and development affecting protected and priority habitats and species.

Under Section 2.4 within the TAN 5, 'when deciding planning applications that may affect nature conservation local planning authorities should':

- Pay particular attention to the principles of sustainable development, including respect for environmental limits, applying the precautionary principle, using scientific knowledge to aid decision making and taking account of the full range of costs and benefits in a long term perspective;
- Contribute to the protection and improvement of the environment, so as to improve the quality of life and protect local and global ecosystems, seeking to avoid irreversible harmful effects on the natural environment;
- Promote the conservation and enhancement of statutorily designated areas and undeveloped coast;
- Ensure that appropriate weight is attached to designated sites of international, national and local importance;
- Protect wildlife and natural features in the wider environment, with appropriate weight attached to priority habitats and species in Biodiversity Action Plans;
- Ensure that all material considerations are taken into account and decisions are informed by adequate information about the potential effects of development on nature conservation;
- Ensure that the range and population of protected species is sustained;
- Adopt a step-wise approach to avoid harm to nature conservation, minimise unavoidable harm by mitigation measures, offset residual harm by compensation measures and look for new opportunities to enhance nature conservation; where there may be significant harmful effects local planning authorities will need to be satisfied that any reasonable alternative sites that would result in less or no harm have been fully considered;

Legislation and biodiversity

Certain species of animals and plants found in the wild in the UK are legally protected from being harmed or disturbed. These species are listed in the Wildlife and Countryside Act 1981 (as amended) or are named as European Protected Species (EPS) in the Conservation of Habitats and Species Regulations 2017. These two main pieces of legislation have been consulted when writing this report and are therefore described in detail within this section.

Other relevant legislation and policy documents that have been consulted include – The Environment (Wales) Act 2016; The Countryside and Rights of Way Act 2000; The Hedgerow Regulations 1997; Biodiversity Action Plans, both UK-wide (UKBAP) and Local plans (LBAPs), and The National Planning Policy Framework (NPPF).

There is also legislation that legally protects certain animals - for example, the Protection of Badgers Act (1992) protects badgers and their setts, and the Deer Act (1991) places restrictions on actions that can be taken against deer species.

Environment (Wales) Act 2016

Section 6 of the Act places a duty on public authorities to 'seek to maintain and enhance biodiversity' so far as it is consistent with the proper exercise of those functions. In so doing, public authorities must also seek to 'promote the resilience of ecosystems'. The duty replaces the section 40 duty in the Natural Environment and Rural Communities Act 2006 (NERC Act 2006), in relation to Wales, and applies to those authorities that fell within the previous duty.

Public authorities will be required to report on the actions they are taking to improve biodiversity and promote ecosystem resilience.

Section 7 replaces the duty in section 42 of the NERC Act 2006. The Welsh Ministers will publish, review and revise lists of living organisms and types of habitat in Wales, which they consider are of key significance to sustain and improve biodiversity in relation to Wales.

The Welsh Ministers must also take all reasonable steps to maintain and enhance the living organisms and types of habitat included in any list published under this section, and encourage others to take such steps.

Wildlife & Countryside Act 1981 (as amended)

The Wildlife & Countryside Act 1981 (as amended) [WCA] is the primary legislation for England and Wales for the protection of flora, fauna and the countryside. Part I within the Act deals with the protection of wildlife.

Most European Protected Species offences are now covered under the Conservation of Habitats and Species Regulations (see below), but some 'intentional' acts are still covered under the WCA, such as obstructing access to a bat roost.

The WCA prohibits the release to the wild of non-native animal species listed on Schedule 9 (e.g. Signal Crayfish and American Mink). It also prohibits planting in the wild of plants listed in Schedule 9 (e.g. Japanese Knotweed and Rhododendron ponticum) or otherwise deliberately causing them to grow in the wild. This is to prevent the release of invasive non-native species that could threaten our native wildlife.

The provisions relating to animals in the Act only apply to 'wild animals'; these are defined as those that are living wild or were living wild before being captured or killed. It does not apply to captive bred animals being held in captivity.

There are 'defences' provided by the WCA. These are cases where acts that would otherwise be prohibited by the legislation are permitted, such as the incidental result of a lawful operation which could not be reasonably avoided, or actions within the living areas of a dwelling house.

Licensing: certain prohibited actions under the Wildlife and Countryside Act may be undertaken under licence by the proper authority. For example scientific study that requires capturing or disturbing protected animals can be allowed by obtaining a licence – e.g. bat surveys.

Conservation of Habitats and Species Regulations 2017

The Conservation of Habitats and Species Regulations 2017 (which are the principal means by which the EC Habitats Directive is transposed in England and Wales) update the legislation and consolidate all the many amendments which have been made to the Regulations since they were first made in 1994.

These regulations provide for the:

- protection of European Protected Species [EPS] (animals and plants listed in Annex IV Habitats Directive which are resident in the wild in Great Britain) including bats, dormice, great crested newts, and otters;
- designation and protection of domestic and European Sites - e.g. Site of Special Scientific Interest [SSSI] and Special Area of Conservation [SAC]; and
- adaptation of planning controls for the protection of such sites and species.

Public bodies (including the Local Planning Authority) have a duty to have regard to the requirements of the Habitats Directive in exercising their function – i.e. when determining a planning application.

There is no defence that an act was the incidental and unavoidable result of a lawful activity.

Licensing: it is possible for actions which would otherwise be an offence under the Regulations to be undertaken under licence issued by the proper authority. For example, where a European Protected Species has been identified and the development risks deliberately affecting an EPS, then a 'development licence' may be required.

○ Species protection

The following protected species information is relevant to this report. Legislation is only discussed in relation to planning and development; other offences may exist.

Amphibians

The common frog, common toad, common newt, and palmate newt receive limited protection under the Wildlife and Countryside Act 1981 (as amended), making it illegal to sell or trade them.

The Great Crested Newt and Natterjack Toad are fully protected under the Conservation of Habitats and Species Regulations 2017 as European Protected Species. It is illegal to:

- Deliberately capture, injure, kill, or disturb either species,
- Intentionally or recklessly obstruct access to any structure/place used for shelter or protection, or
- Damage or destroy a breeding site or resting place.

Badger

Badgers are protected in the UK under the Protection of Badgers Act 1992. Under the act it is an offence to:

- Wilfully kill, injure, take, possess or cruelly ill-treat³ a Badger, or attempt to do so;

³ The intentional elimination of sufficient foraging area to support a known social group of Badgers may, in certain circumstances, be construed as an offence by constituting "cruel ill treatment" of a Badger

- To intentionally or recklessly interfere with a sett⁴ (this includes disturbing Badgers whilst they are occupying a sett, as well as damaging or destroying a sett or obstructing access to it).

The legislation aims to protect the species from persecution, rather than being a response to an unfavourable conservation status, as the species is in fact common over most of Britain; it is not intended to prevent properly authorised development.

Bats

All British bats are classed as European Protected Species and therefore receive protection under the Conservation of Habitats and Species Regulations 2017, making it an offence *inter alia* to:

- Deliberately kill, injure or capture a bat;
- Deliberately disturb bats;
- Damage or destroy a breeding site or resting place of a bat.

In addition, all British bats are also listed under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) which contains further provisions making it an offence to intentionally or recklessly:

- Obstruct access to any structure or place which any bat uses for shelter or protection; or
- Disturb any bat while occupying a structure or place which it uses for that purpose.

If proposed development work is likely to destroy or disturb bats or their roosts, then a licence will need to be obtained from Natural Resources Wales, which would be subject to appropriate measures to safeguard bats.

Birds

In the UK, the provisions of the Birds Directive are implemented through the Wildlife & Countryside Act 1981 (as amended), the Conservation of Habitats and Species Regulations 2017. All wild birds, their nests and eggs are protected it an offence to:

- kill, injure, or take any wild bird;
- take, damage or destroy the nest of any such bird whilst it is in use or being built; or
- take or destroying an egg of any such wild bird.

The law covers all species of wild birds including common, pest or opportunistic species.

Special protection against disturbance during the breeding season is also afforded to those species listed on Schedule 1 of the Act.

Dormice

The common dormouse is classed as a European Protected Species and therefore receive protection under the Conservation of Habitats and Species Regulations 2017, making it an offence *inter alia* to:

- Deliberately capture, injure, or kill a dormouse;
- Deliberately disturb dormice;
- Damage or destroy a breeding site or resting place of a dormouse.

In addition, the dormouse is listed under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) which contains further provisions making it an offence to intentionally or recklessly:

- Obstruct access to any structure or place which a dormouse uses for shelter or protection; or

⁴ A sett is defined as “any structure or place which displays signs indicating current use by a Badger”. Advice issued by Natural England (June 2009) is that a sett is protected as long as such signs remain present, which in practice could potentially be for some time after the last actual occupation by Badger.

- Disturb a dormouse while occupying a structure or place which it uses for that shelter or protection.

Otters

The European Otter, *Lutra lutra* is a European Protected Species and therefore receive protection under the Conservation of Habitats and Species Regulations 2017, making it an offence inter alia to:

- deliberately capture, injure or kill any wild otter;
- deliberately disturb wild otters;
- damage or destroy a breeding site or resting place of an otter.

In addition, the otter is listed under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) which contains further provisions making it an offence to intentionally or recklessly:

- disturbs an otter while it is occupying a structure or place which it uses for shelter or protection; or
- obstructs access to such a place.

If proposed development work is likely to destroy or disturb otters or their resting places, then a licence will need to be obtained from Natural Resources Wales, which would be subject to appropriate measures to safeguard otters.

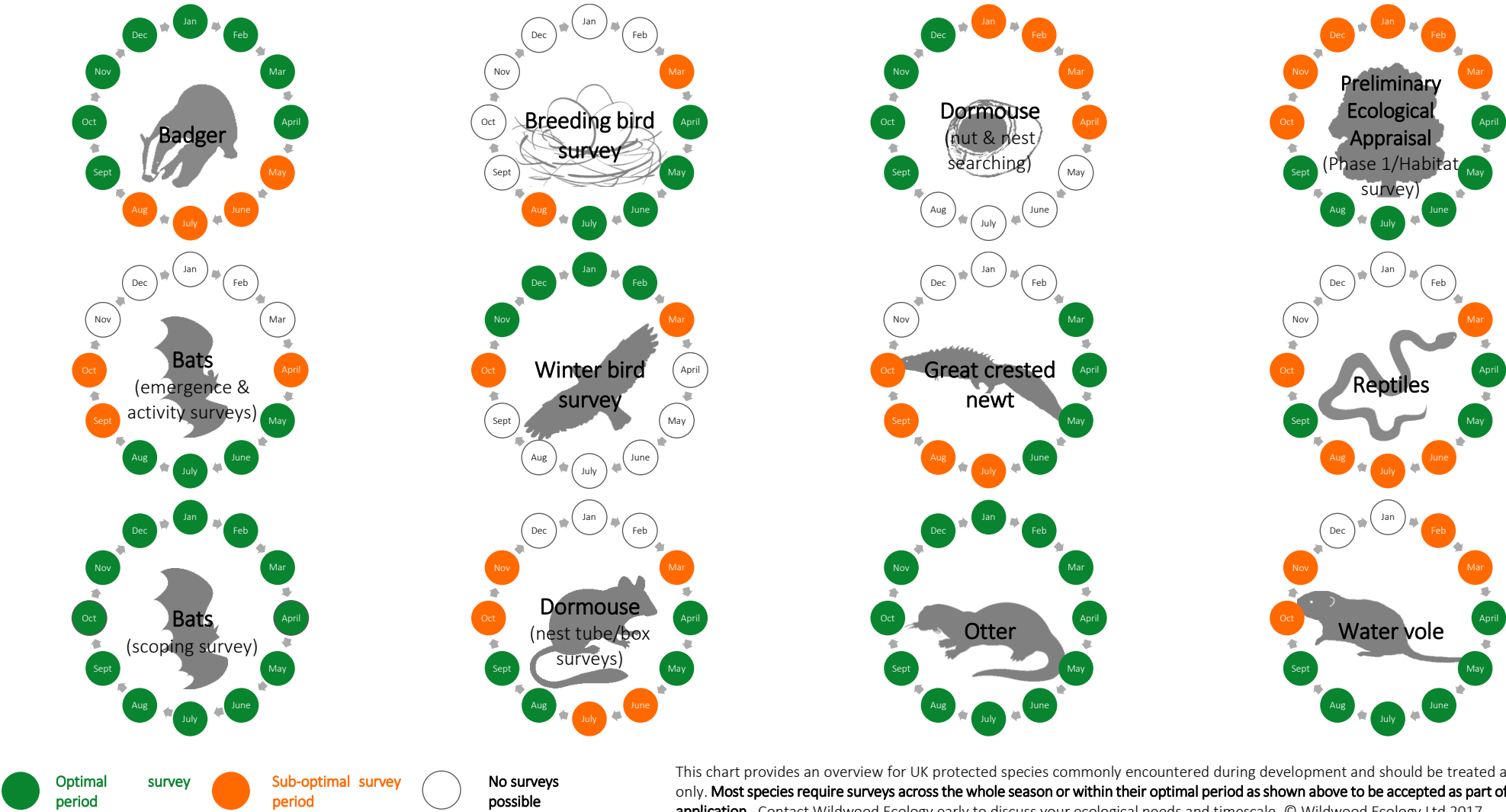
Reptiles

Adders, slow worms, grass snakes and common lizards are protected against killing and injuring under Schedule 9 of the Wildlife and Countryside Act 1981 (as amended). This legislation makes it illegal to intentionally kill or injure a common reptile. As a result, reptiles must be removed from areas of development and relocated onto suitable release sites before any site works can commence.

Smooth snakes and sand lizards are European Protected Species under schedule 5 of the Wildlife and Countryside Act 1981 (as amended) and Schedule 2 of the Conservation of Habitats and Species Regulations 2017. This makes it illegal to carry out the following activities:

- Deliberately or recklessly disturb, capture or kill these animals;
- Deliberately or recklessly take or destroy eggs of these animals;
- Damage or destroy a breeding site or resting place of such a wild animal; or
- Keep, transport, sell or exchange, or offer for sale or exchange, any live or dead animal, or any part of, or anything derived from such a wild animal.

APPENDIX IX: SURVEY CALENDAR



This chart provides an overview for UK protected species commonly encountered during development and should be treated as guidance only. **Most species require surveys across the whole season or within their optimal period as shown above to be accepted as part of a planning application.** Contact Wildwood Ecology early to discuss your ecological needs and timescale. © Wildwood Ecology Ltd 2017

