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

T: 029 2002 2320

E: info@wildwoodecology.com
W: www.wildwoodecology.com

PRELIMINARY ECOLOGICAL APPRAISAL REPORT

RHADYR TO USK CYCLEWAY.

SUSTRANS

DOCUMENT REF: WWE19066 PEA REV B | 20/08/2019

Director: Richard Dodd, BSc (Hons), CEcol, MCIEEM
Wildwood Ecology Limited. Registered in England & Wales, Company No. 6646654 VAT No. 938019610
Registered Office: Queen Anne House, 66 Cricklade Street, Cirencester, Gloucestershire, GL7 1JN

Client:	Sustrans
Site/Job:	Rhadyr to Usk Cycleway.
Report title:	Preliminary Ecological Appraisal Report
Report reference:	WWE19066 PEA Rev B

Grid Reference:	SO3724501262 and SO362702308
Survey date(s):	1st, 2nd, 4th April 2014 and 15th May 2019
Surveyed by:	Dr Alexandra Pollard BSc (Hons), PhD, MCIEEM Dr Matthew Davies BSc (Hons), PhD, ACIEEM Julie Player BSc (Hons). MCIEEM
Architect/Agent:	Gwyn Smith
Planning reference:	N/A

VERSIONING AND QUALITY ASSURANCE

Rev	Status	Date	Author(s)	Reviewed by	Approved by
A	Draft	14/06/2019	Alex Pollard MCIEEM Principle Ecologist and Julie Player MCIEEM Senior Ecologist	Alex Pollard MCIEEM Principle Ecologist	Alex Pollard MCIEEM Principle Ecologist
B	Final	20/08/2019	Alex Pollard MCIEEM Principle Ecologist and Julie Player MCIEEM Senior Ecologist	Alex Pollard MCIEEM Principle Ecologist	Alex Pollard MCIEEM Principle Ecologist

DISCLAIMER

This document has been prepared by Wildwood Ecology Limited for Sustrans solely as a Preliminary Ecological Appraisal 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 Limited was commissioned by Sustrans (the client) to undertake an updated Preliminary Ecological Appraisal by Sustrans (the Client) on a section of proposed for cycle route running from west to east from Rhadyr to Usk. • The site is the subject of a planning application to create a multi-use cycle path that can be used by cyclist pedestrians and/or horse riders.
Work undertaken	• A feasibility study was undertaken by Wildwood Ecology Ltd in 2014 which consisted of a desk study and field survey following the Chartered Institute of Ecology and Environmental Management (CIEEM) Preliminary Ecological Appraisal (2013) guidelines and standard Phase 1 Habitat Survey protocol (JNCC, 2010). • On the basis of the feasibility study Wildwood Ecology Ltd recommended further surveys for great crested newts, common dormouse, badger, reptiles and bats (if any trees were to be removed and if any structures are to be repaired and or demolished). • In 2017 David Clements Ecology Ltd undertook additional species surveys for bats, common dormouse, reptiles and great crested newts. The results determined that great crested newts were absent from the ponds surveyed. Reptiles can be assumed present and a precautionary approach of clearing vegetation in suitable habitat should be undertaken. Four trees were categorised as having moderate potential for use by bats. The remainder of the trees surveyed were classified as having low potential to support bats. Common dormouse was not recorded as part of the dormouse surveys; however, the surveys were not undertaken between April and October (the optimal time for dormouse surveys). It is for this reason and the good quality of habitat on site and the record of common dormouse within woodland linked to the site that a recommendation of a precautionary approach to vegetation clearance should be undertaken. • An ecological appraisal was also produced by Sustrans in March 2018 which provided a summary of the assessments completed to date. This included an assessment of nature conservation sites, habitats and protected and notable species identified along the route and detail mitigation, where required to address the potential ecological impacts identified.

Key issues	• The development may result in impacts on wildlife and habitats affecting the following protected species:
	  ○ Berthin Brook (without pollution prevention)
	  ○ Dormouse (disturbance and vegetation removal)
	  ○ Bats (if trees suitable to be used at bat roosts are removed and/or if bridges or pill boxes are to be managed or destroyed)
	  ○ Badgers
	  ○ Otter/Water Vole (possible disturbance during construction if temporary lighting is used and works are undertaken at night)
	  ○ Reptiles and amphibians (during their terrestrial phase)
	  ○ Hedgehogs

Recommendations	• A range of recommendations are provided in relation to the Berthin Brook (pollution control measures); dormice (method statement for vegetation clearance); bats; badger, otter, water vole, reptiles, amphibians and hedgehog. • Enhancement measures are also suggested.

Conclusions	
	• Providing that the recommendations outlined within this report are successfully implemented, it should be possible for the proposed development to proceed and for there to be no long-term impacts upon the key protected species present at the site. • This ecological report will remain valid for a period of 18 months from the date of the last survey – i.e. until November 2020.

CONTENTS

Summary iv
List of figures v
List of tables vi

1 Introduction 1

2 Methodology 3

3 Results 5

4 Interpretation and Assessment 11

5 Conclusions and Recommendations 16

6 References 19

APPENDIX I: PEA plan 20

APPENDIX II: Survey images 21

APPENDIX III: Species list 25

APPENDIX IV: Planning policy and legislation 27

List of figures

Figure 1 – Aerial image of the site (red line shows the proposed cycle route from Rhadyr to Usk). Image used under licence (©2019 Google). Imagery date 25/06/2018. 1
Figure 2 Woodland near staring point of route (east end near Usk Island) 22
Figure 3 Plantation woodland at most western side of route. 22
Figure 4 Birds' nest under bridge over Berthin Brook (target note 2) 22
Figure 5 Section of disused railway that route will follow 22
Figure 6 Mammal path leading down bank into woodland (target note 3) 22
Figure 7 Himalayan Balsam 22
Figure 8 Brick/rubble piles (target note 19) 23
Figure 9 Potential badger sett (target note 20) 23
Figure 10 Bat bricks under Berthin Bridge (target note 21) 23
Figure 11 Old otter spraint recorded underneath Berthin Bridge adjacent to bat bricks (target note 21) 23
Figure 12 Badger hair on fence (target note22) 23
Figure 13 Natural waterbody suitable for amphibians (target note 24) 23
Figure 14 Railway sleeper, good habitat for reptiles and amphibians (target note 25). 24

Figure 15 Japanese Knotweed located within areas of dense scrub within the eastern section of the route (se target note 5 in 2014 report) 24

List of tables

Table 1 – Sources of biodiversity and ecological records. 3
Table 2 – Surveyor information. 4
Table 3 – Summary of designated sites in range of the site. 5
Table 4 – Priority and protected species records found in the vicinity of the site within the last 10 years. 6
Table 5 – Summary of weather conditions during the PEA in May 2019. 6
Table 6: Habitats and linear features identified onsite during 2014 and 2019 8
Table 7 – Indicative potential impacts of the proposed development affecting onsite protected species. 15
Table 8: Recommendations for mitigation 16

1 INTRODUCTION

1.1 Wildwood Ecology was commissioned by Sustrans (the client) to undertake an up to date preliminary ecological appraisal (PEA) of Rhadyr to Usk Cycleway. (the site) is located between grid reference SO3724501262 and SO362702308.

1.2 This report should be read in conjunction with the Little Mill – Usk Feasibility Study report produced by Wildwood Ecology Ltd in 2014, the additional survey and great crested newt survey reports produced by David Clements Ecology Ltd in 2017 and the Usk – Little Mill Traffic-Free Route Ecological Appraisal produced by Sustrans in March 2018.

Site description

1.3 The aerial image of the site (Figure 1) shows the site mainly follows the course of a disused railway line.

1.4 The wider landscape is mainly agricultural fields (pasture and arable) with some well-connected pockets of woodland. The towns of Usk and Little Mill can be found to the east and west (respectively). Waterbodies including the River Usk and Llandegfedd Reservoir are nearby.

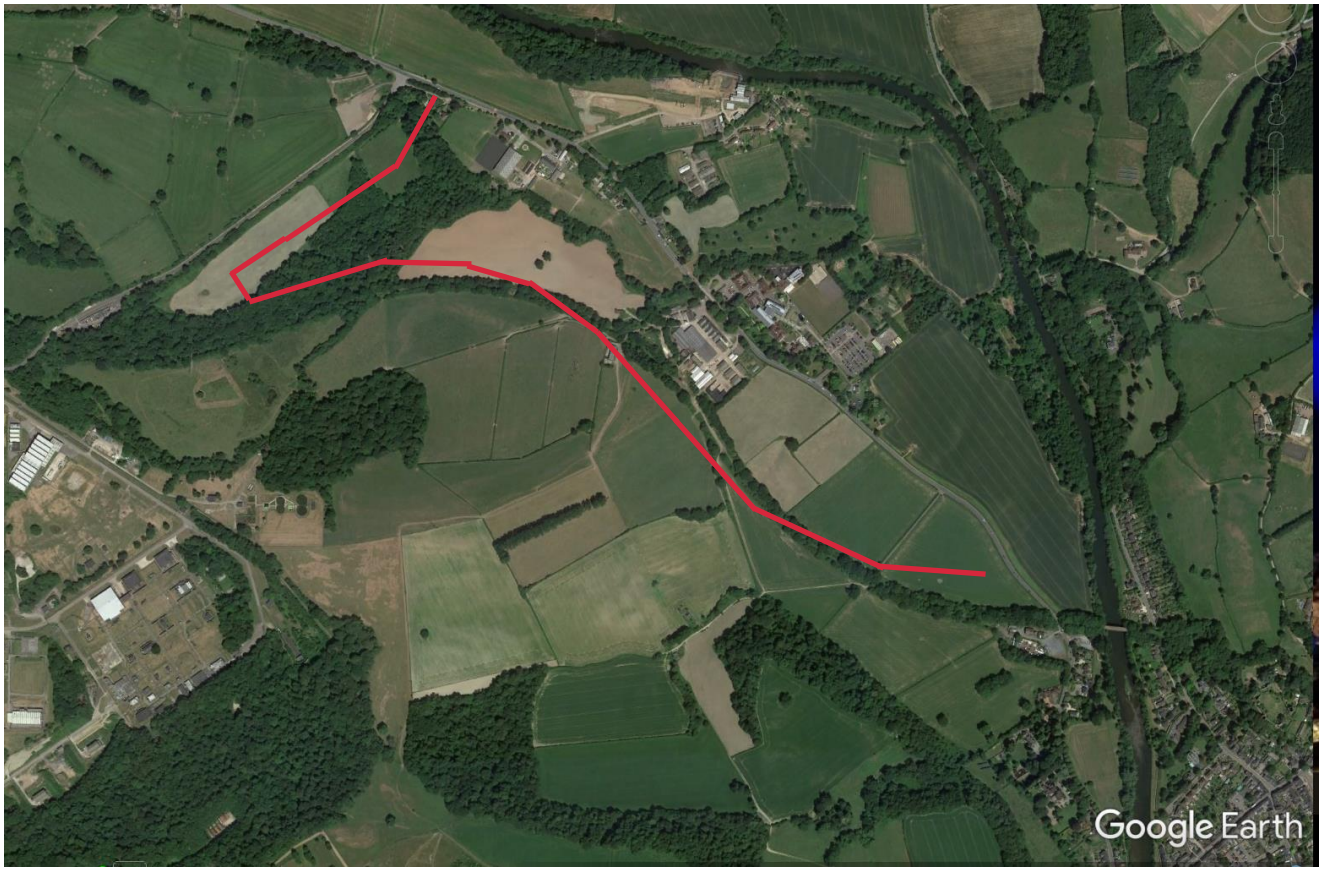


Figure 1 – Aerial image of the site (red line shows the proposed cycle route from Rhadyr to Usk). Image used under licence (©2019 Google). Imagery date 25/06/2018.

Proposed development

1.5 Since the initial feasibility study undertaken in 2014 vegetation clearance along the route has been undertaken as part of gas pipeline maintenance works. Therefore the proposed works will include some vegetation clearance of scrub, tall ruderal and small tree saplings to allow the railway track and sleeper removal, tarmac installation, and landscaping of on and off ramps. All works are to enable a multi-user access along the proposed route. At the time of writing this report no lighting has been proposed along the route.

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.

1.7 The result of the PEA has been used to inform whether further surveys are required, or to establish the need for, and extent of, any mitigation or compensation measures required as part of the proposed development.

2 METHODOLOGY

Desk study

2.1 A biodiversity desk study was undertaken in relation to the site in April 2014. 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)
South East Wales Biodiversity Records Centre (SEWBReC)	• Protected and priority species (2km) • 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 (ZoI[2]) 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 additional data was ordered for the site as it is considered that the survey information held for the site itself (i.e. records generated by the Wildwood Ecology, David Clements and Sustrans surveys) is adequate.

Field survey

2.5 Field surveys were undertaken by Wildwood Ecology Ltd in April 2014 and May 2019.

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 and Himalayan balsam.

[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).

Surveyor information

2.10 The Feasibility Study in 2014 was undertaken by Dr Alexandra Pollard, MCIEEM, and Dr Matthew Davies, MCIEEM and the PEA undertaken in 2019 was undertaken by Julie Player, MCIEEM. See Table 2 for further information.

Table 2 – Surveyor information.

Surveyor	Licences	Ecological experience
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.
Matt Davies Ph.D., B.Sc. (Hons), MCIEEM Senior Ecologist	Bat Dormouse	Holds a Ph.D. in scent marking in otters and has an extensive knowledge of otter and mustelid ecology in general. Experience of dusk and dawn bat activity surveys and the use of broadband bat detector systems.
Julie Player B.Sc. (Hons) MCIEEM Senior Ecologist	Bat Dormouse GCN	Holds a first-class honours degree in International Wildlife Biology. Experience in working for ecological consultancies since 2012. Experienced in undertaking bat, dormouse, reptile and great crested newt surveys. Is a licensed bat, dormouse and great crested newt surveyor in England and Wales.

Limitations and assumptions

2.11 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.

2.12 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 No land subject to non-statutory or statutory designations of nature conservation interest was present on site.

3.2 There are seven statutory designations of nature conservation within a 5km diameter. These include five SSSIs, one SAC and one National Park. Please see Table 1 below for further information.

Designated sites (non-statutory)

3.3 There are four SINCs within 500m of the Site. A further eight non-statutory protected sites are designated for ASNW/PAWS (Ancient Semi-natural Woodlands/ Plantation on Ancient Woodlands). Please see Table 1 below for further information.

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

Site name	Designation	Description / key reason for designation	Distance & direction
River Usk	SAC/SSSI	River, with migratory and resident fish species, otter and water crowfoot beds	<10m East
Berthin Brook Wet Meadow	SINC	H7 Marshy Grassland (Note: Contributory Species Carex disticha)	~ 20m South
Beech Hill Farm	SINC	H4 Neutral Grasslands	~ 430m Northeast
St Michael's Church, Glascoed	SINC	H4 Neutral Grasslands	~ 445m Southwest
Little Castle (LDP Candidate Site CS/0033)	SINC	H4 Neutral Grasslands	~ 500m East
Cwm-Ton, Glascoed	SSSI	Exposures of Silurian rocks	0.52km South
Llandegfedd Reservoir	SSSI	Inland water, important for wildfowl	1.14km South
Brecon Beacons	National Park	Category Five Protected Landscape Area (managed for recreation and landscape conservation)	1.4km Northwest
Priory Wood	SSSI	Semi-natural broadleaved woodland	3.1km North
Cilwrgi Quarry	SSSI	Exposures of Silurian rocks	3.8km South

Priority and protected species

3.4 The SEWBReC search returned 61 species recorded within 500m of the Site within the last ten years. Table 2 outlines these findings, breaking the results into "Protected & priority species," "Other species of conservation concern," and "Species of local conservation concern."

3.5 Some additional records provided were for species found further than 500m from the Site. This included mobile species which, due to the possibility of them using land within the search area as part of their territory, or for part of their life cycle, should be taken into account in an ecological assessment.

Table 4 – Priority and protected species records found in the vicinity of the site within the last 10 years.

		# of species (# of records)		
Protected & priority species		**Totals**	**< 500m**	**> 500m**
Species	Bats	10 (52)	9 (48)	2 (4)
	Dormouse	1 (1)	-	1(1)
	Great crested newt	1 (3)	-	1 (3)
	Otter	1 (3)	1 (3)	-
	Water vole	1 (1)	1 (1)	-
Groups	Birds	11 (20)	6 (8)	7 (12)
	Fish	2 (3)	2 (3)	-
	Invertebrates	2 (2)	2 (2)	-
	Other amphibians (non-EPS)	2 (2)	2 (2)	-
	Other mammals (non-EPS)	3 (4)	3 (4)	-
	Plants	1 (2)	1 (2)	-
	Reptiles	1 (1)	-	1 (1)
	Fungi	-	-	-
Other species of conservation concern		19 (35)		
Species of local conservation concern		15 (18)		

Field survey

Timing and conditions

3.6 Prevailing weather conditions during the field survey are summarised within Table 5.

Table 5 – Summary of weather conditions during the PEA in May 2019.

Date	Weather conditions			
	Temp [°C]	Cloud cover [Oktas]	Wind speed [Beaufort scale]	Rain
15/05/2019	13	2	0	Nil

3.7 The following notes should be used in conjunction with the map and target notes in Appendix I and relate to locations where the development of the proposed route affects habitats or species. Much of the route follows the course of a disused railway line and gas line.

3.8 The habitats present onsite are described in detail in Table 6 using the standard Phase 1 survey habitat classification hierarchical alphanumeric reference codes (JNCC, 2010).

3.9 Please also refer to Table 6 for a list and description of the onsite target notes of additional ecological features identified during the 2019 survey. The positions for these target notes are highlighted in the PEA plan in Appendix I.

3.10 Plant species included in Schedule 9 of the Wildlife and Countryside Act (1981), as amended, were searched for during the Survey. Examples of plants that appear in the schedule include invasive species such as Japanese knotweed (Fallopia japonica) and giant hogweed (Heracleum mantegazzianum). It is an offence under the Act to spread or cause the spread of these species. The presence of other highly invasive plant species, such as Himalayan balsam (Impatiens glandulifera), was also investigated during the survey.

Table 6: Habitats and linear features identified onsite during 2014 and 2019

Habitat type / Linear feature	Species present	Other observations
J4 Bare ground The proposed route followed an existing trackway (Bare Ground) along much of the cycleway.	N/A	Habitat suitable for nesting birds Signs of badger (target note 3) Potential bat features identified in 2014 and 2019 survey. Japanese Knotweed and Giant Hogweed identified in 2014 and 2019 survey Stones/gravel/habitat piles suitable for reptiles (target note 19)
A2.1 Scrub (dense/continuous) The starting point at Usk Island was predominantly dense continuous scrub and young broad-leaved woodland.	Dominant species - bramble	Same as above
A1.1.1 Semi-natural, broad-leaved woodland Young broadleaved woodland was located at the start of the survey area (Usk Island) and at the western end of the survey boundary. The broadleaved woodland located on the western end of the survey area was found to be wet woodland with some areas of standing water. comprised ash Fraxinus excelsior, hawthorn Crataegus monogyna and blackthorn Prunus spinosa.	Sycamore, alder, ash, blackthorn, willow, hawthorn, marsh marigold, wood anemone, lesser celandine, dock, nettle, cleavers, ivy	Nesting birds (target note 2) Badger setts (target note 20) Signs of otter in Berthin Brook in 2014 and 2019. Habitat suitable to support water vole Marshy habitat suitable to support amphibians (wet woodland) Himalayan balsam (target note 16) Bat boxes under bridge located over Berthin Brook (target note 21)
A3.1 Broad-leaved, parkland and scattered trees Scattered mature trees were recorded along the banks of the disused railway and edges of the fields. Post and wire fences were identified along the disused track and banks along with some well-connected hedgerows.	Oak	Mature trees have the potential to support suitable bat roosting features.
A1.1.2 Plantation, broad-leaved woodland The latter part of the route runs along Plantation Woodland before it enters the wet Broadleaved Woodland. It then ran adjacent to a horse grazed field along a bare ground track. The horse grazed field consisted of Improved Grassland of the Equestrian College to reach the A472.	Alder, birch, poplar, ash, willow sp., ivy, lords and ladies, yellow flag iris, primrose, Himalayan balsam	Himalayan balsam (target note 16)
B4 Improved grassland The proposed route follows the edge of the woodland and runs adjacent to a horse grazed field. The field was surveyed in 2014 and the species identified are located in this table.	Creeping buttercup, dock, lesser celandine, rosebay willowherb, yarrow.	

Invasive species

3.11 Stands of Japanese knotweed, Himalayan balsam and giant hogweed were identified onsite. Japanese knotweed and giant hogweed were found within dense areas of scrub and broadleaved woodland along the south eastern section of the track (see target notes 5 and 6 in 2014 report). Himalayan balsam (Target note 16) was around Berthin Brook and within the wet areas of broadleaved woodland.

Onsite fauna

3.12 The presence of the following species was observed or detected around the site during the survey:

Birds

3.13 The scrub and broadleaved woodland habitat provided many opportunities for birds to nest within the length of this section. European robin and song thrush were observed to be nesting within bramble during the 2014 survey. Wren and robin were also observed showing nesting behaviours at the wood pile adjacent to the College farm buildings during 2014. No nesting behaviours were identified during the 2019 survey however, blackbird, blue tit, bullfinch, buzzard, great tit and goldfinch were all observed within the woodland at the time of the survey.

3.14 Nesting pigeons were identified under the bridge located towards the south eastern part of the proposed cycleway (target note 23).

Badger

3.15 Badger tracks were found running throughout the Scrub at the eastern part of this section, with a recently used latrine found within the pill box facing north-east during the 2014 survey. Further to the west badger setts were identified, there were recorded as being recently used during the 2014 survey but appeared to be disused during the 2019 survey (target note 20). Further tracks were found along the proposed route around this area. A mammal path, potential used by badger (target note 3) was recorded leading down a bank during the 2019 survey as well as badger hairs that were found on the fence line along the northern side of the proposed route within a field leading up to the woodland (target note 22).

Bats

3.16 Two pill boxes were recorded adjacent to the proposed cycle route in 2014 that were suitable to support roosting bats (see target note 4 in 2014 survey report). A single bat dropping was found within the pill box (Target Note 4) during the 2014 survey. No signs of bats or actual bats were found in either pill box during the 2019 survey. Several of the older trees along the sides of the existing trackway have medium potential to support roosting bats as there were several crevices and gaps suitable for crevice dwelling species.

3.17 Bat boxes were recorded under the bridge over Berthin Brook (target note 21) during the 2019 survey. Due to the high-water levels at the time of the surveys the boxes could not be inspected to confirm use by bats.

Reptiles

3.18 During the 2014 survey piles of roofing tiles and debris close to the college (eastern track) were found, which may provide insolation and refugia opportunities for a range of reptile species (see target note 7 in 2014 report). Adjacent to the route on the eastern track, approaching the College farm buildings, a mosaic of differing sward height grasses, tall ruderal vegetation, bare earth plus several piles of wood and debris were observed, providing suitable habitat for foraging, insolation and refugia for reptiles. There was also nearby standing water (ditch). No reptiles were seen.

3.19 Piles of rubble/stone were recorded during the 2019 building adjacent to the college buildings which would provide suitable habitat for reptiles (target note 19).

Amphibians

3.20 Habitat suitable for amphibians was found at Target Note 10, near to the College farm buildings and to the west of the residential houses at the northern end of the proposed route, in the form of ditches with water. Two natural waterbodies were also identified on the south eastern section of the proposed route on field boundaries (see target note 24) during the 2019 survey. Additionally, the Rhadyr Orles woodland

and the woodland to the south of these houses was found to be very damp with high levels of humidity and standing water (in Rhadyr Orles). These areas would also be suitable to support non-breeding amphibians. No amphibians were found.

Otter

3.21 Potential otter usage of Berthin Brook (see target note 1 in 2014 report) was found (slide and trackway) where the proposed route crosses the bridge to the east of Rhadyr Orles during both the 2014 and 2019 survey (old otter spraint identified in 2019 adjacent to Berthin Brook bridge by target note 21).

Water vole

3.22 Similarly, Berthin Brook provided opportunities (such as suitable bank features and water quality) for water vole although no signs were found.

Dormouse

3.23 The hedgerow at the northern boundary (adjacent to the road leading to the BAE Systems Works) was found to be suitable for dormouse due to the abundance of vegetation providing year-round food supply (bramble, hazel, hawthorn) and cover. However, no signs or actual dormouse were found. Target Note 12 on the 2014 report refers to the entire hedgerow. The current design of the route no longer requires the removal of this hedgerow. Broadleaved woodland and continuous dense scrub would also offer suitable foraging and nesting habitat for dormice.

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 are no statutory designations of nature conservation interest on the site itself. There are seven statutory designations of nature conservation within a 5km diameter. These include five SSSIs, one SACs and one National Park (see Table 1 for further details).

4.4 There are four non-statutory designations (SINCs) of nature conservation interest within 500m of the Site.

4.5 The statutory 'off-site' designations mentioned above (and in Table 1.) are sufficiently well separated from the site that no direct or indirect impacts on its designated features are anticipated as a result of the Development. If works are to be undertaken within 10 m of Berthin Brook, then pollution prevention measures must be put in place.

4.6 Given the scale of the proposed development, and the lack of likely impacts beyond the site boundary, the nearby designated sites are sufficiently well separated so that no impacts on their designated features are anticipated as a result of the works.

Priority and protected species

4.7 The following priority species (as listed in Section 7 of the Environment (Wales) Act 2016) were present or likely to be present onsite: Bats, badger, dormouse, amphibians (including great crested newts), reptiles, otter, water vole, birds, hedgehogs, invertebrates and fish.

Bats

4.8 The local records search returned a number of records for bat species in the vicinity of the site (see Table 5).

4.9 There will be a negative impact on bat species as a result of the proposed development if trees with potential roosting features are removed as part of the proposed works, if crevices within the bridges onsite require management or removal.

4.10 It will be necessary to produce a lighting plan if any site lighting is proposed for both the construction phase and for the finished Development in order to demonstrate minimal disturbance to bats. If no site lighting is planned, then confirmation of this must be provided.

4.11 The scrub and trees along the route provide well-connected links to the wider environment and foraging opportunities for a variety of bat species. Biodiversity records of nine bat species were returned in proximity to the proposed route, including brown long-eared, common pipistrelle, greater horseshoe, lesser horseshoe, natterer's Myotis, noctul, serotine and soprano pipistrelle.

4.12 The two pill boxes and bat boxes present on the proposed route could provide roosting opportunities for bats. Although a single bat dropping was found on the sill of the most easterly pill box the structures in 2014, they have a low roosting potential, with few crevices for bats to use, and the corrugated tin roof would not be optimal to hang from. Enhancement of these structures for bats would be beneficial and could be achieved by creating crevices or installing bat boxes within them.

4.13 There is a risk that potential bat roosts could be damaged or destroyed within the bridges (crevices between stones) and trees (cavities and voids within trunks and branches) along the route.

Common dormouse

4.14 The local records search returned one record for common dormouse in the vicinity of the site (see Table 5) which is connected to the site via hedgerows and blocks of woodland.

4.15 There will be a negative impact on common dormouse as a result of the proposed development.

4.16 The scrub habitat and trees along the proposed route are suitable for the common dormouse with a range of species present in turn providing a range of food sources. It also links well with the wider environment. Areas of dense scrub and bramble provide good summer nesting habitat, a good food resource, and may provide hibernation sites.

4.17 Although the results of the dormouse surveys undertaken by David Clements Ecology in 2017 returned negative results, due to late commissioning of the surveys they were not completed during the recommended timeframe (between April and October) and were only surveyed between August and October. Unfortunately, insufficient survey effort has been undertaken with regards to and their presence or absence within the site so can therefore not be confirmed as absent within the survey boundary.

4.18 It is highly likely that due to the high-quality habitat for dormouse onsite and the record of dormouse located within linked habitat dormouse can be assumed to be present on site.

European otter

4.19 The local records search returned a number of records for European otter in the vicinity of the site (see Table 5) and they are known to use Berthin Brook.

4.20 There will be a negative impact on European otter as a result of the development if lighting is proposed along the proposed route.

4.21 There was evidence of otter (spraint and footprints) under a bridge crossing Berthin Brook and a number of biodiversity records for this species using the waterways around the proposed route, with several records of otter deaths on the nearby A472.

4.22 The only point at which the proposed route will directly impact upon optimal otter habitat is if and when scrub needs to be removed near to running water. There are no locations at which the proposed route will cross waterways other than by existing bridges.

4.23 There is a risk that otters will be disturbed by the works, and that potential protected habitat may be damaged or destroyed.

Great crested newt and common amphibians

4.24 The local records search returned a number of records for great crested newt in the vicinity of the site (see Table 5).

4.25 There will be a negative impact on great crested newt and common amphibian species during their terrestrial phase as a result of the proposed development via the removal, disturbance of habitat.

4.26 There is suitable habitat for breeding amphibians (i.e. standing water with some vegetation cover) and non-breeding amphibians (e.g. damp woodland, shaded areas) along the proposed route. This, along with records of amphibians (great crested newt– 507m away; common toad– 119m away; common frog Rana temporalis -169m away) in the vicinity, suggest that at least some sections of the proposed route are able to support several species of amphibian throughout their lifecycles.

4.27 The survey undertaken by David Clements Ecology in June 2017 determined that great crested newts were absent from ponds located approximately 300 m away from the proposed cycle route. However, as the habitat on site is of good quality and suitable to support great crested newts and common amphibians during their terrestrial phase, they may be impacted by the proposals in the absence of mitigation.

Reptiles

4.28 The local records search returned a number of records for reptile species in the vicinity of the site (see Table 5).

4.29 There may be a negative impact on reptile species as a result of the proposed development.

4.30 Whilst the majority of the site is shaded and does not provide optimal reptile habitat, the areas at Target Notes (7 (in 2014 report) and 19 (in 2014 and 2019 report)) do provide potential habitat for reptiles to bask and shelter.

4.31 With suitable habitat present and the record of adder found within 1km of the proposed route, the area is considered able to support reptiles.

4.32 There is the potential that common reptile species (adders, slow worms, grass snakes and common lizards) could be killed or injured during habitat clearance works. The areas target noted have moderate potential for reptiles. Although no reptiles have been undertaken it is highly likely that the habitat on site or immediately adjacent to site have reptiles present.

Nesting birds

4.33 The local records search returned a number of records for nesting bird species in the vicinity of the site (see Table 5). In addition, several bird species were encountered onsite during the PEA.

4.34 There will be a negative impact on nesting bird species as a result of the proposed development.

4.35 The on-site trees and scrub provide habitat for breeding birds, with several birds showing nesting behaviours including some confirmed nests.

4.36 The clearance of vegetation will result in the disturbance of a number of birds' nests, if undertaken during the nesting season.

European badger

4.37 The local records search returned a number of records for European badger in the vicinity of the site (see Table 5) the closest being 96 m away on Coleg Gwent, Usk campus land.

4.38 There may be a negative impact on European badger as a result of the proposed development.

4.39 There is considerable evidence of badger use of the site on or within the bank of the proposed route.

4.40 Whilst some trails found along the route may have been used by other mammals (i.e. fox), there are considerable numbers of trails which have evidence of badger usage along them (snuffle holes, hairs, setts, latrines).

4.41 Works around the badger setts at target note 20 may result in the damage or destruction of the sett, or other interference with it. The presence of a badger sett at Target Note 20 may require a development licence to be obtained prior to works commencing, given that works are likely to require heavy machinery to be operational within 30m of the sett.

Water Vole

4.42 Running water with suitable vegetation adjacent to the proposed route (at several places where Berthin Brook crosses/is crossed or approaches the route) may support populations of European water vole.

Biodiversity records showed a recent record of European water vole at 308m from the proposed route in 2009, crossing a road near the Berthin Brook.

4.43 There is a risk that water vole could be disturbed during the construction phase.

West European hedgehog

4.44 The local records search returned one record of the west European hedgehog species in the vicinity of the site (see Table 5).

4.45 There are some suitable habitats onsite (scrub) that will be removed and so there may be a negative impact on west European hedgehog as a result of the proposed development.

Fish

4.46 Records of priority and protected fish species were returned in the vicinity of the proposed route. These are European eel and Shad sp. which were found recently within 300m of the proposed route.

4.47 No alterations of water courses are to be carried out as part of the development, and it is unlikely that there will be any impacts on fish as a result of the proposals.

Invertebrates

4.48 Priority and protected invertebrate records found include freshwater crayfish, speckled bush-cricket, short-winged cone-head and scarlet malachite beetle. The latter three were on and within 20m of the proposed route, and the crayfish within 156m.

4.49 The freshwater crayfish requires clean, slow-running water; the speckled bush cricket requires open woodland and scrub; the short-winged cone-head requires reedbeds and river floodplains; and the scarlet malachite beetle requires overgrown hedgerows and meadows.

4.50 The development of the proposed route will not alter the flow or quality of the water, or any reedbeds or floodplains, and so there are likely to be negligible impacts upon freshwater crayfish and short-winged cone-head.

4.51 Removal of woodland and scrub may impact upon the speckled bush-cricket and similarly the scarlet malachite beetle with hedge removal. These would be low risk however, as retained and adjacent habitats will provide adequate refuge and resources for these species.

Invasive species

4.52 The presence of invasive species (Himalayan balsam, Japanese knotweed and giant hogweed) at several locations along the site will require management to prevent their spread.

4.53 Measures should be undertaken during the routes construction in order to prevent the spread of any invasive species, and specialist advice sought on the removal and destruction of Japanese knotweed (as hazardous waste).

Impacts of proposed development

4.54 Table 7 summarises the impacts of the proposed development on protected species that are or may be present onsite.

Table 7 – Indicative potential impacts of the proposed development affecting onsite protected species.

Species	Negative impact*
Bats	Yes - Removal of potential roosts within trees, in-filling of crevices on bridges
Common dormouse	Yes – Scrub and tree clearance/removal of suitable commuting and foraging habitat
European otter	Yes –temporary disturbance during the works
Great crested newt/Common Amphibian	Yes – likely disturbance during their terrestrial phase during/removal of suitable habitat
Reptiles	Yes – Disturbance and removal of habitat
Nesting birds	Yes – Nest destruction/habitat removal
European badger	Yes – Disturbance and removal of habitat
West European hedgehog	Yes – Disturbance and removal of habitat
Water Vole	Yes – Lighting and disturbance during the works

*Ultimate assessment of the scale and nature of impacts is dependent upon on final design of proposed development and exact habitats affected.

5 CONCLUSIONS AND RECOMMENDATIONS

5.1 Wildwood Ecology was commissioned to undertake an updated Preliminary Ecological Appraisal (PEA) of Rhadyr to Usk Cycleway.

5.2 The site is the subject of a planning application for a multi-user route for both cyclists and pedestrians.

Designated sites

5.3 Designated sites in the vicinity of the site (see Table 4) are sufficiently well separated so that no impacts on their designated features are anticipated as a result of the proposed development.

Protected species

5.4 Recommendations regarding protected species are shown in Table 8.

Table 8: Recommendations for mitigation

Species/Habitat	Recommendations
Berthin Brook	• If work are to be undertaken within 10 m of Berthin Brook pollution prevention measures will be required to ensure no run-off from the works enters the brook. This may entail dust screening or bunding as appropriate.
Bats	• If any bridges are to be altered or to have any crevices filled, further surveys to establish if bats are roosting within them should be carried out. • If any trees with holes extending into the tree/branch (e.g woodpecker hole or rot pocket) is to be felled, further survey to determine if bats are present will be required. • Continuous habitat should be maintained to ensure that commuting and foraging routes are not lost. • There will be no night lighting of the site during or post construction.

Common dormouse	• The vegetation clearance must be undertaken following a method statement and under the supervision of an ecologist:
	  • A toolbox talk will be provided to all vegetation clearance contractors by an ecologist.
	  • Vegetation clearance should be undertaken during the winter/hibernation period (November to March). During this time scrub and trees will be cleared using hand tools only to approximately 300 mm. The vegetation should be left in situ until the following spring when it can be cut down to ground level in a phased manner.
	  • If dormouse or their nests are found during vegetation clearance works, all works must stop, and a suitably qualified ecologist must be consulted.
	  • If dormice are found a European Protected Species Licence will be required from Natural Resources Wales.
	  • Continuous habitat should be maintained (hedgerows/tree canopy level vegetation) to ensure dormice can still commute across the site.

Great crested newt, common amphibians and reptiles	• The vegetation clearance of suitable habitat (ditches/wet woodland/rubble piles etc..) will be completed following a method statement. • A toolbox talk will be provided to all vegetation clearance contractors by an ecologist. • Two-phased clearance of vegetation will be undertaken within areas of habitat that can support reptiles and amphibians (identified on the plan). • Rubble/habitat piles will be dismantled slowly by hand. • The vegetation/rubble piles will not be removed during reptile hibernation period November to February, or during days following nights of temperatures below 10°C.
Nesting birds	• If habitats suitable for nesting birds are to be removed, then any vegetation clearance will take place outside of the bird nesting season.

	• In the event that clearance work has to be undertaken during the nesting season (generally from 1st March until 31st August, although birds are known to nest outside of these dates in suitable conditions), a breeding bird survey will be required and must be carried out by a suitably qualified person. • Any active nests identified will 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.
European badger, otter, water vole	• A pre-construction check for activity will be required within 30m of the proposed development to ensure the works will not impact any otter couches/holts, water vole burrows or badger setts. • No artificial lighting will be installed. • If deep excavations are to be left overnight, it will be fenced off and a ramp (plank set at 30°) placed within it. This will ensure any animal can escape if it enters the excavation. • Any materials/fuel/chemicals required for the proposed works will be stored on a fenced off platform or secured container, on existing hardstanding to prevent animals from investigating potentially dangerous (to them) materials.
West European hedgehog	• Cautious working is advised to prevent killing or injury to this species. • Creation of habitat piles and/or place hedgehog nest boxes around the site boundary within scrub/existing brash.

5.5 The recommendations have been provided based on no lighting being installed (above current levels). If lighting is required onsite, it is likely that there will be impacts upon the nocturnal species present. In this scenario, a lighting plan should be produced to demonstrate minimal disturbance to bats, otter, water vole and fish. If no site lighting is planned, then confirmation of this must be provided.

5.6 The presence of invasive species (Himalayan balsam, Japanese knotweed and giant hogweed) at several locations along the site will require management to prevent their spread. It is recommended that measures are undertaken during the routes construction in order to prevent the spread of any invasive species, and specialist advice sought on the removal and destruction of Japanese knotweed (as hazardous waste). The Knotweed Code of Practice (https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/296930/LIT_2695_df1209.pdf) suggests several methods for removal and management.

Biodiversity enhancement

5.7 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.

5.8 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).

5.9 We recommend that a range of bat and bird boxes are installed across the site – these could be handmade or purchased. Designs such as the Kent-style bat box are popular and uptake with crevice dwelling species is good; general open fronted, 28mm hole and 32mm hole boxes would also be appropriate for bird species, potentially offering valuable natural nest spaces to species less likely to use boxes (e.g. willow tit).

Overall conclusion

5.10 Providing that the recommendations outlined within this report are successfully implemented, it should be possible for the proposed development to proceed and for there to be no long-term impacts upon the key protected species present at the site.

This ecological report will remain valid for a period of 18 months from the date of the last survey - i.e. until November 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

Bat Conservation Trust and the Institution of Lighting Professionals (2018) Bats and artificial lighting in the UK; *Bats and the Built Environment* series (Guidance Note 08/18), The Bat Conservation Trust, London.

Collins, J. (ed.) (2016) Bat surveys for Professional Ecologists: Good Practice Guidelines (3rd edn). The Bat Conservation Trust, London.

Chartered Institute of Ecology and Environmental Management (April 2013) Guidelines for Preliminary Ecological Appraisal. CIEEM, Winchester.

David Clements Ecology Ltd (2017). Sustrans Route – Little Mill to Usk, Great Crested Newt Survey.

David Clements Ecology Ltd (2017). Sustrans Route – Little Mill to Usk, Additional Survey Work.

Institute for Environmental Assessment (1995). Guidelines for Baseline Ecological Assessment. E & FN Spon, Hong Kong.

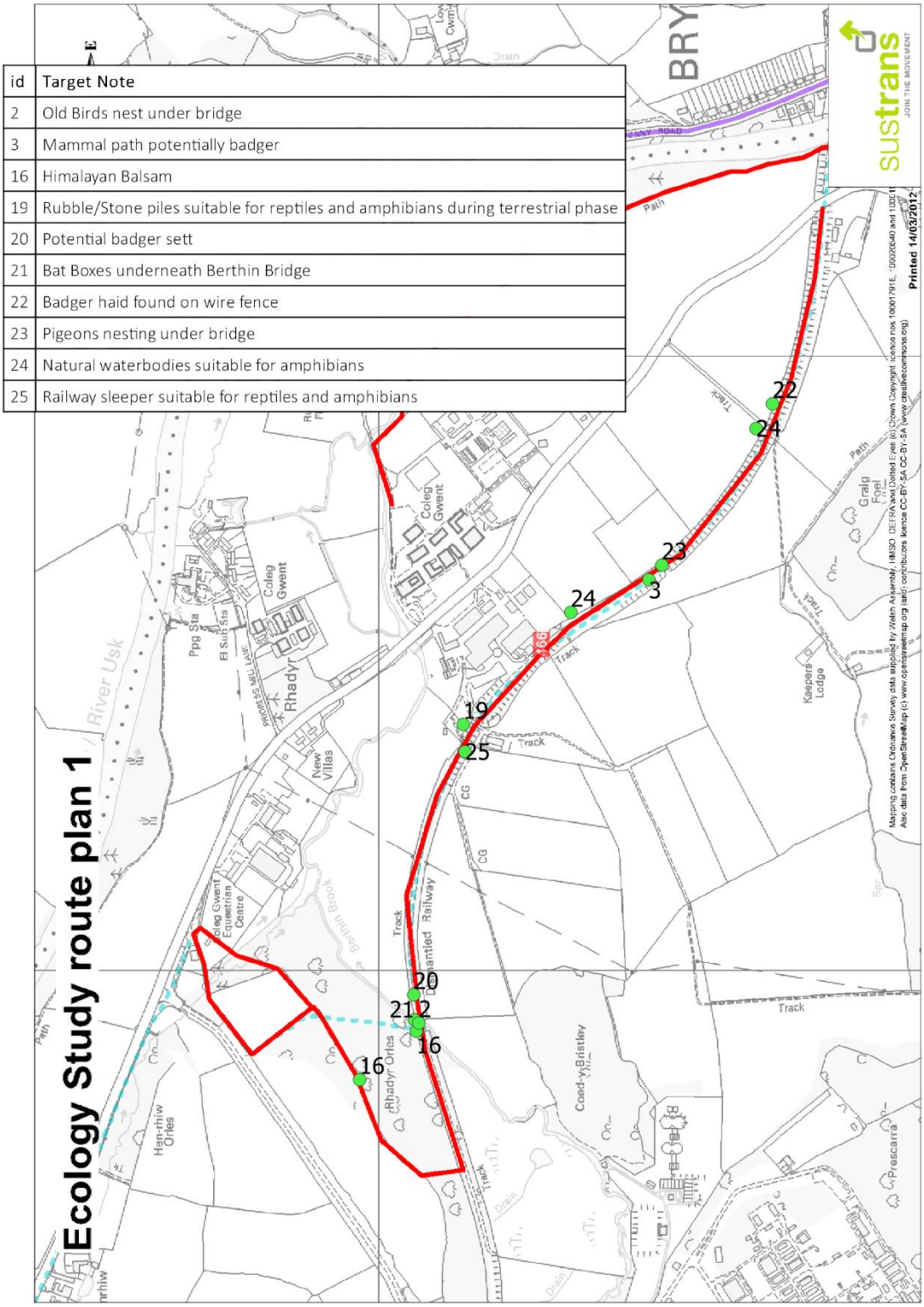
Joint Nature Conservation Committee (2010). Handbook for Phase 1 habitat survey; A technique for environmental audit. Reprinted by JNCC, Peterborough.

Sustrans (2018). Usk – Little Mill Traffic-Free Route Ecological Appraisal.

Wildwood Ecology Ltd (2014). Sustrans, Little Mill to Usk – Route Feasibility Preliminary Ecological Appraisal.

APPENDIX I: PEA PLAN

id	Target Note
2	Old Birds nest under bridge
3	Mammal path potentially badger
16	Himalayan Balsam
19	Rubble/Stone piles suitable for reptiles and amphibians during terrestrial phase
20	Potential badger sett
21	Bat Boxes underneath Berthin Bridge
22	Badger haid found on wire fence
23	Pigeons nesting under bridge
24	Natural waterbodies suitable for amphibians
25	Railway sleeper suitable for reptiles and amphibians



This drawing is Copyright © Wildwood Ecology Ltd 2019. This drawing may contain: Data reproduced from Ordnance Survey digital map data © Crown Copyright 2019. All rights reserved. Licence number 0100031673. Aerial images © Getmapping Plc 2019 & © Google 2019.

APPENDIX II: SURVEY IMAGES

Figure 2 Woodland near staring point of route (east end near Usk Island)

Figure 3 Plantation woodland at most western side of route.

Figure 4 Birds' nest under bridge over Berthin Brook (target note 2)

Figure 5 Section of disused railway that route will follow

Figure 6 Mammal path leading down bank into woodland (target note 3)

Figure 7 Himalayan Balsam

Figure 8 Brick/rubble piles (target note 19)

Figure 9 Potential badger sett (target note 20)

Figure 10 Bat bricks under Berthin Bridge (target note 21)

Figure 11 Old otter spraint recorded underneath Berthin Bridge adjacent to bat bricks (target note 21)

Figure 12 Badger hair on fence (target note22)

Figure 13 Natural waterbody suitable for amphibians (target note 24)

Figure 14 Railway sleeper, good habitat for reptiles and amphibians (target note 25).

Figure 15 Japanese Knotweed located within areas of dense scrub within the eastern section of the route (se target note 5 in 2014 report)

APPENDIX III: SPECIES LIST

To be submitted to the appropriate Local Records Centre species found during 2014 and 2019 surveys

Site Name:	Rhadyr to Usk Cycleway.	**Provided by:**	Wildwood Ecology Ltd
Grid ref:	SO3724501262 and SO362702308	**Verified by:**	Name

Common Name	Scientific Name
Hawthorn	*Crataegus monogyna*
Alder	*Alnus glutinosa*
Apple	*Malus sp.*
Ash	*Fraxinus excelsior*
Barren Strawberry	*Potentilla sterilis*
Beech	*Fagus sylvatica*
Blackthorn	*Prunus spinosa*
Bluebell	*Hyacinthoides non-scripta*
Box	*Buxus sempervirens*
Bracken	*Pteridium aquilinum*
Bramble	*Rubus fruticosus*
Cinquefoil	*Potentilla reptans*
Cleavers	*Galium aparine*
Clover	*Trifolium sp*
Conifer	*Coniferae sp*
Cow Parsley	*Anthriscus sylvestris*
Cranesbill	*Geranium sp.*
Creeping Buttercup	*Ranunculus repens*
Cuckoo-flower	*Cardamine pratensis*
Daffodil	*Narcissus pseudonarcissus*
Daisy	*Bellis perennis*
Dock	*Rumex sp.*
Dog Rose	*Rosa canina*
Elder	*Sambucus nigra*
Enchanter's Nightshade	*Circaea lutetiana*
Forget-me-not	*Myosotis sp*
Forsythia sp	*Forsythia sp*
Foxglove	*Digitalis purpurea*
Garlic Mustard	*Alliaria petiolata*
Goat Willow	*Salix caprea*
Greater Stitchwort	*Stellaria holostea*
Ground Elder	*Aegopodium podagraria*
Ground Ivy	*Glechoma hederacea*
Groundsel	*Senecio vulgaris*
Hart's Tongue	*Phyllitis scolopendrium*
Hazel	*Corylus avellana*
Hemlock Water-dropwort	*Oenanthe crocata*
Herb Robert	*Geranium robertianum*
Himalayan Balsam	*Impatiens glandulifera*
Hogweed	*Heracleum sphondylium*
Holly	*Ilex aquifolium*
Honeysuckle	*Lonicera periclymenum*
Ivy	*Hedera helix*
Japanese Knotweed	*Fallopia japonica*
Lesser celandine	*Ranunculus ficaria*
Lords and Ladies	*Arum maculatum*
Marsh Marigold	*Caltha palustris*

Common Name	Scientific Name
Meadow Buttercup	*Ranunculus acris*
Meadowsweet	*Filipendula ulmaria*
Pedunculate Oak	*Quercus robur*
Perennial Rye Grass	*Lolium perenne*
Primrose	*Primula vulgaris*
Prunus	*Prunus sp*
Red Dead-nettle	*Lamium purpureum*
Ribwort Plantain	*Plantago lanceolata*
Scarlet Elf Cup	*Sarcoscypha coccinea*
Selfheal	*Prunella vulgaris*
Sessile Oak	*Quercus petraea*
Sheep's Sorrel	*Rumex acetosella*
Silver Birch	*Betula pendula*
Silverweed	*Potentilla anserina*
Sphagnum sp	*Sphagnum spp*
Stinging Nettle	*Urtica dioica*
Sycamore	*Acer pseudoplatanus*
Teasel	*Dipsacus sp.*
Thistle	*Cirsium sp.*
Umbellifer sp	*Umbelliferae spp*
Vetch	*Vicia sp.*
Violet	*Viola sp.*
Willow sp	*Salix spp*
Willowherb sp	*Epilobium sp*
Wood Avens	*Geum urbanum*
Yellow Archangel	*Lamiastrum galeobdolon*
Yew	*Taxus baccata*
Yorkshire Fog	*Holcus lanatus*
Badger	*Meles*
Blackbird	*Turdus merula*
Blackcap	*Sylvia atricapilla*
Blue Tit	*Cyanistes caeruleus*
Bullfinch	*Pyrrhula*
Bumblebee sp	*Bombus spp*
Buzzard	*Buteo*
Carrion Crow	*Corvus corone*
Chaffinch	*Fringilla coelebs*
Chiffchaff	*Phylloscopus collybita*
Dunnock	*Prunella modularis*
Fox	*Vulpes vulpes*
Goldfinch	*Carduelis carduelis*
Great Tit	*Parus major*
Long-tailed Tit	*Aegithalos caudatus*
Magpie	*Pica*
Otter	*Lutra lutra*
Pheasant	*Phasianus colchicus*
Robin	*Erithacus rubecula*
Song Thrush	*Turdus philomelos*
Woodpigeon	*Columba palumbus*
Wren	*Troglodytes*

APPENDIX IV: 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 (2018) and Technical Advice Note 5 (2009)

Planning Policy Wales (Edition 10, December 2018) sets out the land use planning policies of the Welsh Government, integrating with the Environment (Wales) Act (2016). 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 reasonable 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-treat[3] 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 sett[4] (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 England, 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
- Disturb a dormouse while occupying a structure or place which it uses for that shelter or protection.

[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.

Otters

The European Otter 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 Resource 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.