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

T: 029 2002 2320

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

ECOLOGICAL IMPACT ASSESSMENT REPORT

BROOKLAND ROAD, RISCA, CAERPHILLY.

CURRIE & BROWN

DOCUMENT REF: WWE24042 FINAL | 19/11/2024

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:	Currie & Brown
Site/Job:	Brookland Road, Risca, Caerphilly.
Report title:	Ecological Impact Assessment Report
Report reference:	WWE24042 Final

Grid Reference:	ST 24193 90189
Survey date(s):	PRA: 13th January 2022 Bat emergence survey: 29th May 2024
Surveyed by:	PRA: David Withington and Laoise Wilder Bat emergence survey: Jack McCormack, Madeline Anderson, Hannah Humphreys, Kate Wickens and Kiana Perera
Architect/Agent:	N/A
Planning reference:	N/A

VERSIONING AND QUALITY ASSURANCE

Rev	Status	Date	Author(s)	Reviewed by	Approved by
A	Final	19/11/2024	Jack McCormack Consultant Ecologist	Dr Mererid Howells CEnv MCIEEM Principal Ecologist	

DISCLAIMER

This document has been prepared by Wildwood Ecology Limited for Currie & Brown 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 Currie & Brown (the client) to undertake an Ecological Impact Assessment of Brookland Road, Risca, Caerphilly. • This report is required to inform a demolition order of the community centre onsite. • The full development plans for the site are not yet known – this report is based on current knowledge of proposed works at the site. If further works are proposed, further surveys and recommendations may be required.
Work undertaken	• A PEA was undertaken consisting of a desk study and field survey carried out on the 13th January 2022. The surveys and reports followed good practice guidelines: o CIEEM (2017). Guidelines for Preliminary Ecological Appraisal. 2nd Edition. Chartered Institute for Ecology and Environmental Management, Winchester. o JNCC (2010). Handbook for Phase 1 habitat survey – a technique for environmental audit. Joint Nature Conservation Committee, Peterborough. • A PRA was also undertaken and followed the Collins (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines, 3rd edn. Bat Conservation Trust, London. • A single bat emergence survey was undertaken following the Collins (2023) in May 2024. Bat Surveys for Professional Ecologists: Good Practice Guidelines, 4th edn. Bat Conservation Trust, London.
Key issues	• A development at the site may result in impacts on the following protected species: o Nesting birds. o West European hedgehog. • The onsite building (community centre) has been assessed for its bat roosting suitability and it has been confirmed that it is of negligible suitability. • A single bat emergence survey was undertaken on the onsite building. No emergences were observed.
Recommendations	• If the demolition of the community centre is to be carried out outside the nesting bird season, the building must be subject to a nesting bird check just prior to the demolition. If an active nest is identified then it must be left until the young have fledged. • All trenching and excavation works must be either covered overnight or provide a means of escape for small wildlife (typically in the form of a plank of wood positioned from the bottom of the excavation to the surface) • The biodiversity enhancement measures that are outlined in Section 5 should be actioned.

Conclusions	
	• Providing that the recommendations outlined within this report are successfully implemented, it should be possible for the proposed works 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 December 2025.

CONTENTS

List of figures

List of tables

1 INTRODUCTION

1.1 Wildwood Ecology was commissioned by Currie & Brown (the client) to undertake an Ecological Impact Assessment of Brookland Road, Risca, Caerphilly. (the site) centred at grid reference ST 24193 90189.

Site description

1.2 The aerial image of the 0.5ha site (Figure 1) consisted of amenity grassland, unmanaged vegetation and areas of hardstanding. Within the north-west section of the site there was a community centre.

Figure 1- Aerial image of the site (red line shows the site boundary). Image used under licence (©2024 Google). Imagery date 13/11/2024.

1.3 The wider site (Figure 2) consisted mainly of residential houses and gardens with small parks and sports grounds to the east and west of the site. South-west of the site there were arable fields on the other side of the main road A467. South of the site there was the River Ebbw while north of the site was the Monmouthshire and Brecon Canal. 180m north of the site there was the Risca and Pontymister railway line that runs west-east across Risca.

Figure 2- Aerial image of the site and the surrounding habitat (red line shows the site boundary). Image used under licence (©2024 Google). Imagery date 13/11/2024.

Proposed development

1.4 The community centre onsite is subject to a demolition order.

1.5 The full development plans for the site are not yet known – this report is based on current knowledge of proposed works at the site. If further works are proposed, further surveys and recommendations may be required.

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 demolition, 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 January 2022. 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) • Protected sites designated for bat species (10km)

2.2 The search buffers are considered to be sufficient to cover the potential zone of influence (ZoI[2]) of the proposed works.

2.3 The impact of the proposed works 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.

Field survey

Preliminary ecological appraisal (PEA)

2.5 A field survey was undertaken on 13 January 2022.

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 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).

[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, 2018).

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.

Preliminary roost assessment (PRA)

2.10 A field survey was undertaken on 13 January 2022.

2.11 An assessment of the onsite building and surrounding habitat was undertaken in accordance with the latest published best practice guidance (Collins, 2016).

2.12 The building was externally and internally inspected for bats and their signs with the aid of high-powered lamps and close-focussing binoculars.

2.13 The suitability of the building to accommodate bats was assessed, along with a systematic search for signs of bats (e.g. droppings, moth wings, scratch marks, staining, etc.) or actual bats that were present. Particular attention was paid to the roof areas, with searches for any crevices or gaps in walls, gaps between beams and joists, droppings stuck to the walls, floors or other surfaces, or feeding remains below beams, in addition to a number of other factors and signs indicative of a bat roost.

2.14 In addition, the building was classified according to its suitability for bats, based on the presence of features within the structure and / or landscape (see Table 2).

Table 2 – Summary of guidelines for assessing the potential suitability of proposed development sites for bats (from Collins 2016).

Suitability	Description of building, tree, or structure	Number of activity survey visits required[3]
Negligible	Negligible habitat features on site likely to be used by roosting bats.	None
Low	A structure or tree with one or more potential roost sites that could be used by individual bats opportunistically. However, potential roost sites not suitable for larger numbers or regular use (i.e. maternity or hibernation).	One
Moderate	A structure or tree with one or more potential roost sites that could be used by bats, but unlikely to support a roost of high conservation status.	Two
High	A structure or tree with one or more potential roost sites obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time.	Three
Confirmed roost	Evidence of bats or use by bats found.	Minimum of two – to characterise the roost

[3] To provide confidence that bats are absent from the structure

Bats – Emergence/re-entry Surveys

2.15 A single dusk emergence survey was undertaken on the community centre on 29 May 2024. The survey was undertaken in accordance with Bat Surveys for Professional Ecologists: Good Practice Guidelines 4th edition (Collins, 2023). Buildings classified as of negligable suitability for roosting bats are not typically subject to bat emergence surveys, however the Local Planning Authority requested in this case that a single survey was undertaken.

2.16 The dusk emergence survey commenced approximately 15 minutes before local sunset and continued for approximately 1.5 hours after sunset.

2.17 Surveyors were positioned to ensure complete coverage of the building and Potential Roost Features.

2.18 Surveyors were equipped with broadband bat detectors (Elekon BatScanner Stereo). Elekon Batloggers was also deployed to record bat activity across the site.

2.19 All bat activity was recorded including (where appropriate) roost access points, species, time of re-entry, direction of flight, behaviour (foraging or commuting) and use of landscape features.

2.20 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 within an area.

2.21 Nightfox whiskers (1080P (30fp), 850nm, 3W, 57°) and infrared cameras (1080P (30fps) i.e. 1080 pixels and 30 frames per second) alongside infrared torches (Nightfox XB5) were used on different elevations throughout the surveys. Cameras were either positioned next to a surveyor, who view the building through the camera once visibility was low, or near a surveyor to get a wider angle.

2.22 Footage from cameras placed away from a surveyor was later reviewed by an ecologist to check for unrecorded emergences, and to cross reference records of emergence from surveyors.

Surveyor information

2.23 The PRA was undertaken by David Withington and assisted by Laoise Wilder. See Table 3 for further information.

Table 3 – Surveyor information.

Surveyor	Licences	Ecological experience
David Withington BSc (Hons) Ecologist	Grade 1 Bat Grade 1 Great crested newt	Holds a PGDip in Environmental Management and Policy. Gained professional experience working with ecological consultancies since 2016. Practised in undertaking a range of protected species surveys including great crested newts, reptiles, hazel dormouse, water vole and bats.
Laoise Wilder BSc (Hons) Assistant ecologist	-	Holds a 2:1 degree in Zoology and Masters in Species Identification and Survey Skills. Gained experience in species monitoring and habitat management through voluntary work with the Wildlife Trust before joining Wildwood Ecology in 2021, completing surveys for reptiles, bats and great crested newt.

Limitations and assumptions

2.24 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.

2.25 Many species of bat in the UK are crevice dwelling, and bats or signs of bats can be difficult to find within a building. In addition, there may be areas that are inaccessible to the surveyor.

2.26 Although the extended Phase 1 Habitat Survey falls outside the recommended seasonal period for botanical surveys, the evaluation and habitat descriptions (and hence the impacts and their significance), are considered to be accurate for the following reasons:

- Given the type of vegetation and habitats present, the valuation of the intrinsic interest is considered unlikely to change;
- Access was possible to all areas of the Application Site and the vegetation was clearly visible.

2.27 The gap between the PRA and the emergence survey was greater than two years. This is not considered to have impacted the validity of the survey effort, however, as there were no significant changes to the building in this time.

2.28 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 two national statutory designations within 2km (see Table 4).

3.2 There were no protected areas (SSSIs or SACs) designated for their bat populations within 10km of the site.

Designated sites (non-statutory)

3.3 There were eight non-statutory designations within 1km of the site (see Table 4).

Table 4 – Summary of designated sites in range of the site.

Site name	Designation	Description / key reason for designation	Distance & direction
Dan y Graig Quarry, Risca	Site of Special Scientific Interest (SSSI)	Site is designated for its semi-natural broadleaved woodland and limestone grassland with a small streams and ponds that supports a large variety of species.	1000m NW from the site
Coed-y-Darren	SSSI	Site designated for its geological importance.	1870m N from the site
River Ebbw	Site of Importance for Nature Conservation (SINC)	This is a significant watercourse that runs through the county borough. The river and its adjacent habitats support a wide variety of species including otters.	200m S from the site
Monmouthshire to Brecon Canal	SINC	Standing open water - Disused linear waterway with a variety of adjacent habitats and associated species including otters.	460m N from the site
Ochrwyth Grasslands	SINC	This is a semi-improved neutral grassland site with at least 8 indicator species.	700m S from the site
Coed y mochyn, Risca	SINC	This is a semi natural woodlands site with areas of calcareous grassland that holds at least 8 indicator species.	730m W from the site
Mynydd Machen, West of Risca	SINC	The site is designated for its areas of open countryside consisting of acid grassland and heathland with at least 7 indicator species. There is a disused quarry east of the site where calcareous grassland with at least 12 indicator species.	920m W from the site
Ty-Sign Meadows, Risca	SINC	Semi-improved neutral grassland with at least 8 indicator species.	940m E from the site
Cwm-y-Nant, Risca	SINC	Semi-natural woodland that supports a range of woodland indicators.	940m N from the site

Coed Mawr West	SINC	An ancient semi-natural woodland.	1000m S from the site

Protected species

3.4 Table 5 summarises the priority and protected species records found within the local area.

Table 5 – Bat and roof-nesting bird species records found in the vicinity of the site.

Protected & priority		# of records (# species)			Further information
Groups	Species	Onsite	<500m	>500m	
Bats	Common pipistrelle	-	5	72	Closest roost: 450m from the site (2005)
	Daubenton's bat	-	-	11	Closest record: 800m from the site (2005)
	Greater horseshoe bat	-	-	1	Closest record: 1590m from the site (2021)
	Lesser horseshoe bat	-	-	1	Closest record: 1070m from the site (2019)
	Nathusius' pipistrelle	-	-	1	Closest record: 920m from the site (2015)
	Natterer's bat	-	-	1	Closest record: 1720m from the site (2005)
	Noctule	-	2	18	Closest record: 450m from the site (2005)
	Pipistrelle species	-	1	9	Closest record: 360m from the site (2003)
	Soprano pipistrelle	-	1	22	Closest record: 450m from the site (2005)
	Whiskered/Brandt's bat	-	-	10	Closest record: 750m from the site (2005)
	Unidentified bat	-	4	18	Closest record: 360m from the site (2003)
	TOTALS	*- (-)*	*13 (6)*	*165 (12)*	
Mammals *(excluding bats)*	European otter	-	-	5	Closest record: 650m from the site (2003)
	European badger	-	-	7	Closest record: 920m from the site (2017)
	West European hedgehog	-	-	12	Closest record: 740m from the site (2014)
	Other mammals	- (-)	- (-)	21 (7)	Records of: brown hare, eastern grey squirrel, Eurasian common shrew, water shrew, polecat, stoat, weasel.

Protected & priority		# of records (# species)			Further information
Groups	Species	Onsite	<500m	>500m	
					closest record: polecat 730m from the site (2002)
	TOTALS	*- (-)*	*- (-)*	*45 (10)*	
Amphibians	Common Frog	-	1	14	Closest record: 460m from the site (2014)
	Common Toad	-	1	7	Closest record: 460m from the site (2014)
	Palmate Newt	-	-	2	Closest record: 550m from the site (2012)
	TOTALS	-	*2 (2)*	*23 (3)*	
Reptiles	Adder	-	1	3	Closest record: 436m from the site (2009)
	Common lizard	-	-	5	Closest record: 944m from the site (2007)
	Grass snake	-	1	3	Closest record: 436m from the site (1958)
	Slow worm	-	2	9	Closest record: 352m from the site (2009)
	TOTALS	*- (-)*	*4 (3)*	*20 (4)*	
Birds	Schedule 1	- (-)	5 (3)	51 (16)	Schedule 1 species: brambling, cirl bunting, common scoter, Eurasian whimbrel, fieldfare, goldeneye, goshawk, greenshank, kingfisher, long-tailed duck, merlin, Montagu's harrier, peregrine, red crossbill, red kite, redwing
	Non-schedule 1	- (-)	30 (19)	351 (62)	**Red listed:** corn bunting, cuckoo, grasshopper warbler, greenfinch, grey partridge, herring gull, house sparrow, lapwing, lesser redpoll, lesser spotted woodpecker, linnet, mallard, marsh tit, mistle thrush, pochard, skylark, spotted flycatcher, starling, swift, tree pipit, tree sparrow, twite, willow tit, wood warbler,

Protected & priority		# of records (# species)			Further information
Groups	Species	Onsite	<500m	>500m	
					woodcock, yellow wagtail, yellowhammer
Invertebrates	Totals:	- (-)	5 (4)	370 (135)	Invertebrate species: anomalous, august thorn, autumnal rustic, beaded chestnut, blood-vein, brindled beauty, broom moth, broom-tip, brown-spot pinion, buff ermine, centre-barred sallow, cinnabar, dark brocade, dark-barred twin-spot carpet, deep-brown dart, dingy skipper, dot moth, double dart, dusky brocade, dusky dart, dusky thorn, ear moth, feathered gothic, flounced chestnut, forester, galium carpet, garden dart, garden tiger, ghost moth, grass rivulet, grayling, green-brindled, crescent, grey dagger, heath rustic, knot grass, lackey, large wainscot, latticed heath, minor shoulder-knot, mottled rustic, mouse moth, neglected rustic, oak hook-tip, powdered quaker, pretty chalk carpet, rosy minor, rosy rustic, rustic, sallow, scarce yellow splinter, September thorn, shaded broad-bar, shoulder-striped wainscot, small emerald, small heath, small phoenix, small square-spot, southern yellow splinter, spinach, streak, v-moth, wall, white ermine
Plants	see further info	-	-(-)	- (-)	Category one species: basil thyme, bluebell,

Protected & priority		# of records (# species)			Further information
Groups	Species	Onsite	<500m	>500m	
					cornflower, red hemp-nettle

Field survey

3.5 Prevailing weather conditions during the field survey are summarised within Table 6.

Table 6 – Summary of weather conditions during the PEA/PRA.

Date	Type	Conditions			
		Temp [°C]	Cloud cover [Oktas]	Wind speed [Beaufort]	Rain
13/01/2022	PEA/PRA	3	0	1	-

PEA

3.6 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 III.

3.7 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).

3.8 Please also refer to Table 6 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.

Table 7- Habitats and linear features present onsite.

Habitat type/linear feature	Species present	Other observations
J1.2 Amenity grasslandJ1.2 Amenity grassland Managed football pitch and small areas of lawns south-west of the site.	Annual meadow grass, bristly oxtongue, creeping buttercup, ragwort, ribwort plantain, ryegrass, sorrel	• Target note 1: four flower beds.
C3.1 Tall ruderal Areas of tall ruderal east and west of the site with scattered scrub species.	Bramble, buddleia, bristly oxtongue, broadleaved dock, cocksfoot, creeping cinq foil, creeping thistle, daisy sp., dandelion, early primrose, gorse, greater plantain, marigold, mugwort, common mullein, nettle, ribwort plantain, rose sp., rosebay, willowherb, teasel, vetch sp., Yorkshire fog	-
J4 Hard Standing Hard standing dominates the site surrounding the community centre.	Buddleia	• Target Note 2: large patch of moss. Which is a small area of ephemeral/ short perennial
J3.6 Buildings Community centre	-	-
J2.4 Fence Metal fences that separate parts of the sites.	-	-
J2.5 Wall Brick and concrete walls that form the east, north and west boundary of the site.	-	-

Invasive species

3.9 There were no stands of invasive species observed onsite.

Onsite fauna

3.10 The presence of the following species were observed or detected around the site during the survey: blackbird and pigeon.

Habitat assessment

3.11 The amenity grassland onsite was managed and the vegetation kept short. The forb (flowering plant) species were common for this habitat type, and the habitat was well represented within the surrounding area. Therefore, the amenity grassland was considered to be of **site ecological importance.**

3.12 The tall ruderal habitat onsite was unmanaged and contained species that are introduced and common for this habitat type. This habitat and its associated species were common and widespread within the surrounding habitat. Therefore, the tall ruderal habitat was considered to be of **site ecological importance**.

3.13 The building, fence, wall and hard standing did not have any features to support any forb or fauna species and were therefore of **negligible ecological importance.**

PRA

3.14 A description of the building inspected during the PRA can be seen in Table 8.

3.15 Note that there were originally another two small garages within the red line boundary which will now be unaffected as a result of the development (see Appendix I). Please note that if these buildings are incorporated into the development plans, they should be subject to further assessment.

Table 8 – Onsite building information.

Building reference	Building type	Description	Development plans
A	Community centre	Single storey multilevel flat roofed building, with bitumen roofing felt. The building was fibreboard constructed with a metal supporting the structure. The building also had uPVC fascia boarding and wooden soffits. The building had security lighting that surrounds all sides of the community centre.	Likely demolition

3.16 The results of the PRA can be seen in Table 9.

Table 9 – PRA results.

Building	Suitability	Likelihood of Use by birds	Bat signs and internal and external Potential Roost Features (PRFs) & access points
A	Negligible	low	No gaps or PRF's identified, possible nesting within the guttering, roof and chimney. Additionally, the lack of roof space and cavities within the building reduces the likelihood of a roosting bat.

Links to surrounding habitat

3.17 The site was connected to the surrounding habitat through a series of residential houses and gardens. The surrounding area was likely to support common and widespread species and habitats. The road system and likely light pollution acted to limit the connectivity and spread of wildlife within the area. A railway line was present approximately 150m to the north and the Ebbw River was present approximately 200m to the south.

Bat emergence survey

3.18 Buildings classified as of negligable suitability for roosting bats are not typically subject to surveys, however the Local Planning Authority requested in this case that a single survey was undertaken.

3.19 A summary of survey timings can be found in Table 9

Table 10 - Emergence survey timings and weather conditions.

Date	Type	Survey Timing			Conditions			
		Start	End	Sunset	Temp [°C]	Cloud Cover [Oktas]	Wind Speed [Beaufort]	Rain
29/05/2024	Dusk emergence	21:03	22:48	21:18	16	5	2	Nil

3.20 The results of the bat emergence survey can be seen in Table 10

Table 11 - Emergence survey results.

Survey type and date	Roosts / points of particular interest	General observations	Equipment Used	Surveyors (licence number)
Dusk emergence	No bats were observed leaving the building and therefore no roosts were identified. Overall low bat activity, with the following species observed: common pipistrelle, soprano pipistrelle, noctule.	Low bat activity. First bat observed 21:45 – common pipistrelle commuting from the north-east to south-east of site.	Batlogger M, Batlogger M2, Batscanner & Echometer Touch 2.	JM, MA, HH, KW, KP.

3.21 Bat flight lines observed during the survey can be seen in Appendix IV.

4 INTERPRETATION AND ASSESSMENT

4.1 The following interpretation and assessment are provided to ensure full compliance with legislation and both local and national planning policy (see Appendix IV).

Designated sites

4.2 There were both statutory and non-statutory designated sites identified within the vicinity of the site (see Table 4). The closest statutory site was the SSSI Dan y Graig Quarry, located 1 km to the north-west of the site. The closest non-statutory site was River Ebbw located approximately 200m to the south of the site.

4.3 There were no protected areas (SSSIs or SACs) designated for their bat populations within 10km of the site.

4.4 The SSSI within the vicinity of the site were not suffering due to recreational disturbance. Therefore, any further increase in local population due to any future development is unlikely to cause any habitat deterioration of these sites due to recreation.

4.5 Additionally, the designated sites in the vicinity of the site (see Table 4) were sufficiently well separated that no impacts on their designated features due to any of the construction works are expected.

Priority and protected habitats

4.6 There were no priority habitats (as listed in Section 7 of the Environment (Wales) Act 2016) present onsite.

Priority and protected species

Amphibians

4.7 The local records search returned a number of records for amphibians in the vicinity of the site (see Table 5). The closest records were common frog and common toad 437m from the site in 2014. There were no GCN records returned within the vicinity of the site.

4.8 There were no water bodies onsite and the site was unconnected to the closest water body, the River Ebbw, 203m away. The tall ruderal onsite was also too short to provide enough cover for amphibians to use this habitat for foraging and refuge. Therefore, the presence of amphibian species was not anticipated onsite.

4.9 There will not be a negative impact on amphibians species as a result of any future proposed demolition.

Bats

4.10 The local records search returned multiple records for at least ten bat species in the vicinity of the site.

4.11 The PRA assessed the onsite building to have negligible suitability for bats.

4.12 The surrounding habitat was considered to be negligible for use by foraging and commuting bats as the area will be well lit from the security lighting and surrounding buildings.

4.13 A single dusk emergence survey was undertaken on the community centre building. No bats were observed emerging from the building, with low levels of bat activity in the surrounding area.

4.14 There is unlikely to be a negative impact on bat species as a result of the proposed demolition.

European badger

4.15 The local records search returned seven records for European badger in the vicinity of the site (see Table 5). The closest record being 920m from the site in 2017.

4.16 There was no badger evidence observed onsite, such as setts, latrines, hairs or snuffle holes, additionally, the habitat onsite was also unsuitable for foraging. The nearby surrounding habitats were residential houses and gardens which are suboptimal habitats for badger setts, further reducing the chance of badgers onsite.

4.17 There is unlikely to be a negative impact on European badger as a result of the proposed demolition.

Dormouse

4.18 The local records search returned no records for dormice in the vicinity of the site (see table 5)

4.19 There were no habitats, such as hedgerow or woodlands, that support a dormice population onsite. The site was also unconnected to any optimal habitat, making it unlikely that dormice will be present onsite.

4.20 There will not be a negative impact on dormice as a result of the proposed demolition.

European otter

4.21 The local records search returned five records for European otter in the vicinity of the site (see Table 5). The closest record being 652m from the site in 2003.

4.22 The local records for otter sightings are associated with the water courses that run to the north and south of the site. However, the likelihood of an otter to be present onsite was limited as the site was surrounded by residential houses and roads. There were no connecting suitable habitats between the site and the river. Alternative and more suitable and better connected habitat was present within the surrounding area of the two water sources.

4.23 There will not be a negative impact on European otter as a result of the proposed demolition

Invertebrates

4.24 The local records search returned a number of records for invertebrate species in the vicinity of the site (see Table 5). Including records for a number of moth and butterfly species listed in Section 7 of the Environment (Wales) Act 2016.

4.25 Whilst a full assessment of the flora on site was not possible in winter, the tall ruderal onsite will likely only support common invertebrate species. This habitat, and the identified species onsite, was common within the surrounding habitat.

4.26 Furthermore, there were some plants identified onsite that are a main foodplant for some notable species. For example, ragwort is a food plant for the cinnabar moth. The densities of these plants species were so small onsite that the removal of this habitat will most likely cause a displacement of the population to the surrounding habitats that are more optimal.

4.27 There is unlikely to be a negative impact on invertebrate species as a result of the proposed demolition

Nesting birds

4.28 The local records search returned a number of records for nesting bird species in the vicinity of the site, including some Schedule 1 designated species (see Table 5). In addition, several bird species were encountered onsite during the PEA.

4.29 Though there were no signs of nesting birds observed during the PEA/PRA, the onsite buildings do have a low suitability for birds to nest within the guttering, roof and chimney.

4.30 There may be a negative impact on nesting bird species as a result of any future proposed development.

Reptiles

4.31 The local records search returned a number of records for four reptile species in the vicinity of the site (see Table 5). The closest record being slow worm 352m from the site in 2009.

4.32 The onsite habitat was unsuitable to support reptile species as the amenity grassland and tall ruderal was kept too short to provide any cover for forging and refuge. There were no habitat piles or rubble piles that would provide opportunity for any reptiles to hibernate.

4.33 The site was separated from surrounding optimal habitats through residential gardens and roads. The habitats were suboptimal to support foraging commenting reptiles as the lawns were well managed and kept short providing no optimal refuge.

4.34 There will not be a negative impact on reptile species as a result of the proposed demolition.

West European hedgehog

4.35 The local records search returned twelve records for West European hedgehog species in the vicinity of the site (see Table 5).

4.36 Although there was no evidence, in the form of droppings, of hedgehog on site, the habitats present provide good foraging and resting sites for this species. As they are mobile mammals, there was the potential for hedgehog to be present during the siteworks.

4.37 There may be a negative impact on west European hedgehog as a result of the proposed demolition.

Invasive species

4.38 There were no stands of invasive species observed onsite.

5 CONCLUSIONS AND RECOMMENDATIONS

5.1 Wildwood Ecology was commissioned to undertake a Preliminary Ecological Assessment (PEA), Preliminary Roost Assessment (PRA) and a single emergence survey at Brookland Road, Risca, Caerphilly.

5.2 This purpose of this report is to inform a demolition order for the community centre onsite.

Designated sites

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

Protected species

5.4 Recommendations regarding protected species are shown in Table 10.

Table 12 – Recommendations.

Species	Recommendations
Bats	No further surveys required.
European otter	No further surveys required.
Reptiles	No further surveys required.
Nesting birds	Further Surveys, after planning, but before commencement on site, are likely to be required. If the community centre is planned to be demolished then the works will ideally take place outside of the bird nesting season. In the event that demolition 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 nesting bird check must be carried out prior the site clearance. 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, will be devised and implemented.
European badger	No further surveys required.
West European hedgehog	No further surveys required. Any trenching or excavation that occurs on site must be left uncovered with a ramp within it to provide an escape route. Chemical/ fuel must be kept in a safe location not accessible by wildlife.
Invertebrates	No further surveys required. Native planting should be incorporated into the future development plans.

Biodiversity enhancement

5.5 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.

5.6 Where possible the existing onsite habitat will be retained to ensure that species are not adversely affected by the proposed works. 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).

5.7 Further onsite habitat retention, creation or enhancement may be required as part of the required net benefit for biodiversity.

5.8 Bird nesting boxes and bat roosting boxes will be incorporated within the proposed building and boundary features. A range of types will be used in order to cover a variety of species. Many designs are available and we would initially suggest the following for this site:

- Bats - https://www.nhbs.com/vivara-pro-woodstone-bat-box?bkfno=210820
- General open fronted - http://www.nhbs.com/2hw_schwegler_nest_box_tefno_177926.html (suitable for redstart, thrushes, flycatchers).

Overall conclusion

5.9 Providing that the recommendations outlined within this report are successfully implemented, it should be possible for the proposed works 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 December 2025. Further surveys may be required to update the site information if planning is not obtained or works do not commence within this time period.

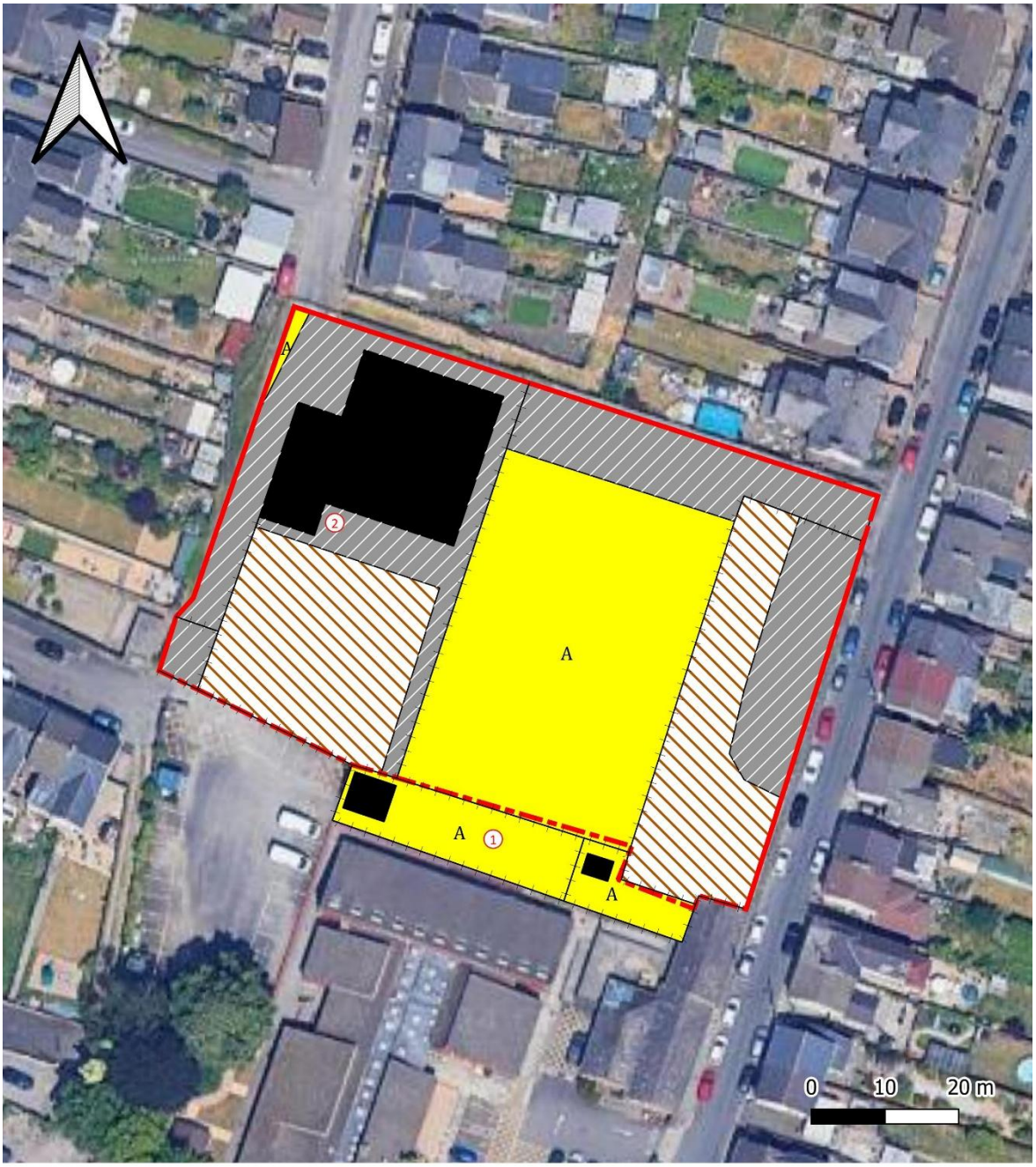
6 REFERENCES

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

Collins, J. (ed.) (2023). Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th edition). The Bat Conservation Trust, London.

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

APPENDIX I: PEA MAP



Target note
Red line boundary

Linear habitat
Fence
Wall

Habitat
C.3.1 Tall ruderal
A J.1.2 Amenity grassland
J.3.6 Buildings
Hard standing

Target Note	Description
2	Large area of moss
1	Flower beds

APPENDIX II: SURVEY IMAGES

Figure 3- Tall ruderal east of the site.

Figure 4- tall ruderal west of the site.

Figure 5- short mossy area within the hardstanding.

Figure 6- hardstanding west of the site.

Figure 7- hardstanding and building north-west elevation.

Figure 8- hardstanding north of the site.

Figure 9-south west elevation of the main building

Figure 10- boiler room located south west of the building.

Figure 11- central room of the community centre.

Figure 12- gym hall

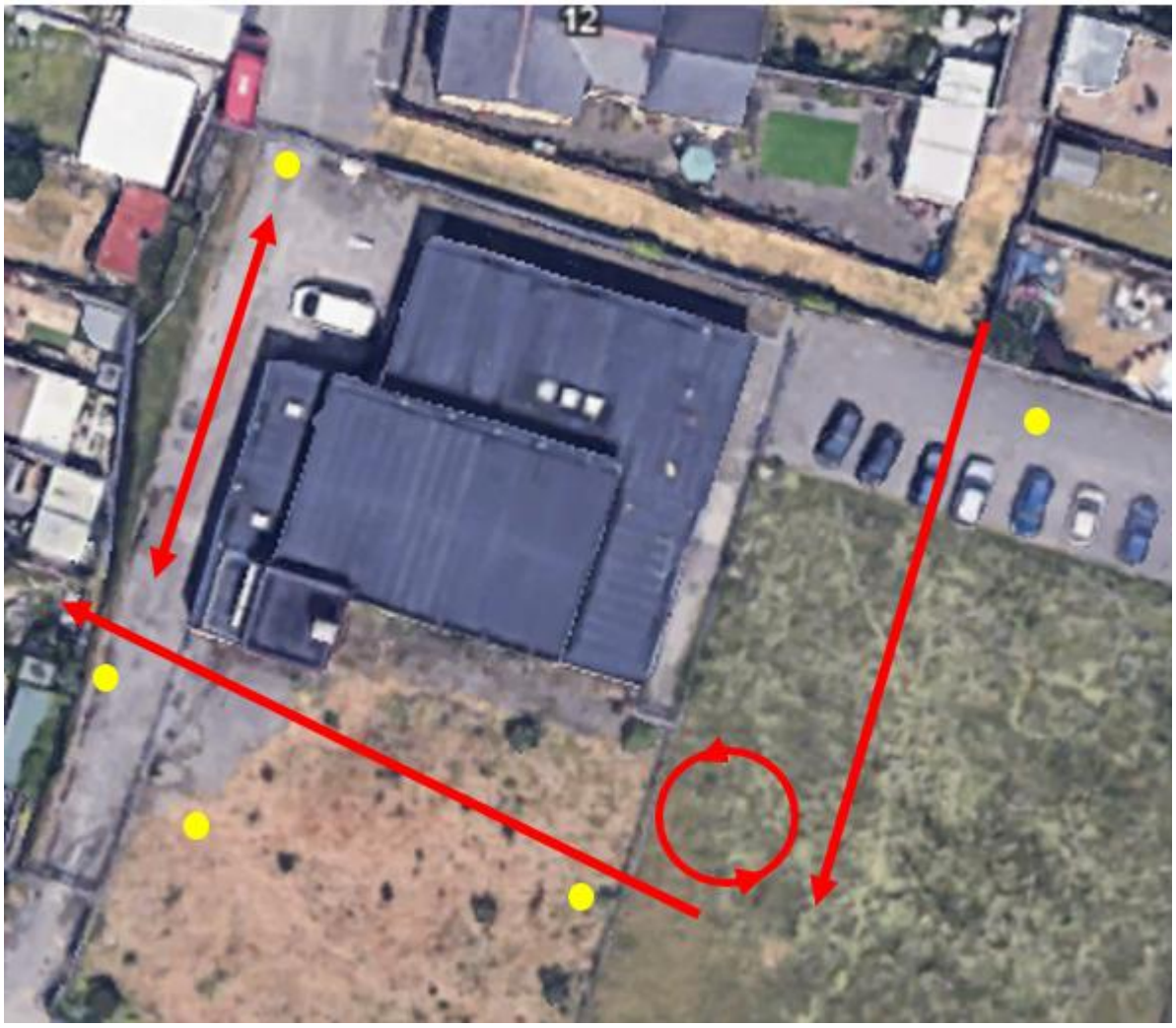
APPENDIX III: SPECIES LIST

To be submitted to the appropriate Local Records Centre

Site Name:	Brookland Road, Risca, Caerphilly.	**Provided by:**	Wildwood Ecology Ltd
Grid ref:	ST 24193 90189	**Verified by:**	Laoise Wilder

Common name	Scientific Name
Herbs	
Annual meadow grass	*Poa annua*
Broadleaved dock	*Rumex obtusifolius*
Bristly oxtongue	*Helminthotheca echioides*
Cocksfoot	*Dactylis glomerata*
Common daisy	*Bellis perennis*
Creeping buttercup	*Ranunculus repens*
Creeping cinquefoil	*Potentilla reptans*
Creeping thistle	*Cirsium arvense*
Daisy species	*Asteraceae* sp.
Dandelion	*Taraxacum officinale*
Early primrose	*Oenothera biennis*
Great mullein	*Verbascum thapsus*
Greater plantain	*Plantago major*
Marigold	*Tagetes* sp.
Mugwort	*Artemisia vulgaris*
Nettle	*Urtica dioica*
Perennial ryegrass	*Lolium perenne*
Ragwort	*Jacobaea vulgaris*
Ribwort plantain	*Plantago lanceolata*
Rosebay willowherb	*Chamaenerion angustifolium*
Sorrel	*Rumex acetosa*
Teasel	*Dipsacus fullonum*
Vetch species	*Vicia* sp.
Yorkshire fog	*Holcus lanatus*
Scrub	
Bramble	*Rubus fruticosus*
Buddleia	*Buddleja davidii*
Rose sp	-
Bat species	
Common pipistrelle	*Pipistrellus pipistrellus*
Noctule	*Nyctalus noctula*
Soprano pipistrelle	*Pipistrellus pygmaeus*

APPENDIX IV: BAT ACTIVITY PLAN



Surveyor location

Flight path

APPENDIX V: 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 (Wales)

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

Planning Policy Wales – Edition 12 (2024) and Technical Advice Note 5 (2009)

Planning Policy Wales (Edition 12, February 2024) 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 (TANs).

Section 6.2 of Planning Policy Wales (Edition 12) describes how elements of Green Infrastructure should be incorporated into new developments. Paragraph 6.2.12 states: "A green infrastructure statement should be submitted with all planning applications. This will be proportionate to the scale and nature of the development proposed and will describe how green infrastructure has been incorporated into the proposal. In the case of minor development this will be a short description and should not be an onerous requirement for applicants. The green infrastructure statement will be an effective way of demonstrating positive multi-functional outcomes which are appropriate to the site in question and must be used for demonstrating how the step-wise approach (Paragraph 6.4.15) has been applied."

Section 6.4 of Planning Policy Wales outlines how all developments should achieve net benefit for biodiversity by implementing the DECCA framework. Paragraph 6.4.5 states: "Planning authorities must seek to maintain and enhance biodiversity in the exercise of their functions. This means development should not cause any significant loss of habitats or populations of species (not including non- native invasive species), locally or nationally and must work alongside nature and it must provide a net benefit for biodiversity and improve, or enable the improvement, of the resilience of ecosystems. A net benefit for biodiversity is the concept that development should leave biodiversity and the resilience of ecosystems in a significantly better state than before, through securing immediate and long-term, measurable and demonstrable benefit, primarily on or immediately adjacent to the site. The step-wise approach outlined below is the means of demonstrating the steps which have been taken towards securing a net benefit for biodiversity. In doing so, planning authorities must also take account of and promote the resilience of ecosystems, in particular the following attributes, known as the DECCA Framework:

- diversity between and within ecosystems;
- the extent or scale of ecosystems;
- the condition of ecosystems including their structure and functioning;
- the connections between and within ecosystems; and
- adaptability of ecosystems including their ability to adapt to, resist and recover from a range of pressures likely to be placed on them through climate change for example."

Section 6.4.15 outlines how the step-wise approach should applied to all new developments. This has been summarised below:

Avoid

"The first priority for planning authorities is to avoid damage to biodiversity in its widest sense (i.e. the variety of species and habitats and their abundance) and ecosystem functioning."

Proposals in statutory designated sites are, as a matter of principle, unacceptable and therefore must be excluded from site searches undertaken by developers. This principle also extends to those sites containing protected species and habitats which are irreplaceable and must be safeguarded."

Minimise

"When all locational, siting and design options for avoiding damage to biodiversity have been exhausted, applicants, in discussion with planning authorities, must seek to minimise the initial impact on biodiversity and ecosystems."

Restore/mitigate

"Where, after measures to minimise impact, biodiversity and ecosystems could still be damaged, or lost through residual impacts, the proposed development should mitigate that damage."

"Effective mitigation or restoration measures should be incorporated into the design proposal following the consideration of steps one and two above. Mitigation or restoration measures must be designed to address the specific negative effects by repairing damaged habitats and disturbed species. They should seek to restore in excess of like for like, accounting for disturbance and time lags for the recovery of habitat and species, and in every case, mitigation or restoration measures should seek to build ecosystem resilience within the site and where possible the wider area."

Compensate onsite

"When all the steps above have been exhausted, and where modifications, alternative sites, conditions or obligations are not sufficient to secure biodiversity outcomes further on-site/immediately proximate, as a last resort off-site compensation for unavoidable damage must be provided."

"Off-site compensation should normally take the form of habitat restoration, or habitat creation, or the provision of long-term management agreements to enhance existing habitats and deliver a net benefit for biodiversity."

"The Green Infrastructure Assessment should be used to identify suitable locations for securing off-site compensation."

"Where compensation for specific species is being sought, the focus should be on maintaining or enhancing the population of the species within its natural range."

"Any proposed compensation should be place based, take account of the Section 6 Duty (Biodiversity and Resilience of Ecosystems Duty), the DECCA framework and appropriate ecological advice from the local authority Ecologist, NRW or a suitably qualified ecologist."

Compensate offsite

"Each stage of the step-wise approach must be accompanied by a long term management plan of agreed and appropriate avoidance, minimisation, mitigation/restoration and compensation measures alongside the agreed enhancement measures."

Refuse planning permission

"Finally, where the adverse effect on biodiversity and ecosystem resilience clearly outweighs other material considerations, the development should be refused."

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.

Future Wales: The National Plan 2040

Policy 9 of Future Wales: The National Plan 2040 (Resilient Ecological Networks and Green Infrastructure) states: "In all cases, action towards securing the maintenance and enhancement of biodiversity (to provide a net benefit) the resilience of ecosystems and green infrastructure assets must be demonstrated as part of development proposals through innovative, naturebased approaches to site planning and the design of the built environment."

Policy 34 of Future Wales: The National Plan 2040 (Green Belts in the South East) states: "The Welsh Government requires the Strategic Development Plan to identify a green belt to the north of Cardiff, Newport and the eastern part of the region to manage urban form and growth. The Strategic Development Plan must consider the relationship of the green belts with the green belt in the West of England. Local Development Plans and development management decisions should not permit major development in the areas shown for consideration for green belts, except in very exceptional circumstances, until the need for green belts and their boundaries has been established by an adopted Strategic Development Plan."

Wellbeing of Future Generations (Wales) Act 2015

The Wellbeing of Future Generations (Wales) Act 2015 aims to create:

- A globally responsible Wales;
- A prosperous Wales;
- A resilient Wales;
- A healthier Wales;
- A more equal Wales;
- A Wales of cohesive communities; and
- A Wales of vibrant culture and thriving Welsh language.

As part of the National Well-being Indicator Framework, 46 wellbeing indicators have been identified including Healthy Ecosystems (43) and Biological Diversity (44). These indicators have been identified as central to all seven of the goals that the Wellbeing of Future Generations (2015) Wales Act has set out to achieve.

The Future Generations Commissioner for Wales acts as a guardian for the interests of future generations in Wales, supporting 48 public bodies in assuring sustainable development (defined as acting "in a manner which seeks to ensure that the needs of the present are met without compromising the ability of future generations to meet their own needs") in line with each of the seven wellbeing goals. The public bodies listed within the act include Natural Resources Wales, Local Authorities and National Park Authorities. Therefore, planning proposals submitted to the aforementioned parties should be in aligned with the goals listed within the Wellbeing of Future Generations (Wales) Act 2015, and should aim to have a positive impact on the indicators identified with the National Well-being Indicators Framework.

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 (as amended)

The Conservation of Habitats and Species Regulations 2017 (as amended) (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.

Bats

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

- deliberately kill, injure or capture a bat;
- deliberately disturb bats; and
- 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/ 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 (as amended). 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.

Reptiles

Adder, slow worm, grass snake and common lizard 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 site works can commence.

Smooth snake and sand lizard 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 (as amended). 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; and
- 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.