



Former Llanwern Steelworks,
Newport

Ecological Impact Assessment

September 2026

Acer Ecology

REPORT CONTENTS

1.	INTRODUCTION	1
1.1.	BRIEF AND SITE LOCATION	1
1.2.	SITE DESCRIPTION	1
1.3.	PROPOSED WORKS	1
1.4.	SCOPE OF REPORT	1
2.	METHODS.....	3
2.1.	SCOPE OF ASSESSMENT	3
2.2.	DESK STUDY.....	3
2.3.	FIELD STUDY	4
3.	BASELINE ECOLOGICAL CONDITIONS, EVALUATION AND DEVELOPMENT IMPACTS	14
3.1.	STATUTORY NATURE CONSERVATION DESIGNATED SITES	14
3.2.	NON-STATUTORY NATURE CONSERVATION DESIGNATED SITES	15
3.3.	HABITATS AND VEGETATION	15
3.4.	INVASIVE PLANT SPECIES.....	21
3.5.	ASSESSMENT OF ECOLOGICAL VALUE OF OFF-SITE HABITATS	21
3.6.	PROTECTED AND NOTABLE SPECIES	22
4.	REQUIRED ACTIONS AND CONCLUSIONS.....	56
4.2.	PRECAUTIONARY MEASURES.....	56
4.3.	MITIGATION MEASURES.....	58
4.4.	LICENSING	59
4.5.	LONGEVITY OF REPORT.....	59
4.6.	CONCLUSIONS.....	59
5.	REFERENCES AND BIBLIOGRAPHY	61

PLANS

PLAN 1: SITE LOCATION	64
PLAN 2: PROTECTED SITES WITHIN 2 KM OF SITE.....	64
PLAN 3: LOCATION OF BUILDINGS ON SITE.....	65
PLAN 4: LOCATION OF WATER BODIES WITHIN 0.5 KM	67
PLAN 5: HABITATS AND VEGETATION.....	68
PLAN 6A: PROPOSED SURVEYOR POSITIONS – BUILDING B3.....	69
PLAN 6B: PROPOSED SURVEYOR POSITIONS – BUILDING B4.....	70
PLAN 6C: PROPOSED SURVEYOR POSITIONS – BUILDING B5.....	71
PLAN 7: WATER VOLE FIELD SIGN LOCATIONS	72
PLAN 8: DEMOLITION BUFFER AROUND SUITABLE WATER VOLE HABITAT PLAN.....	73
PLAN 9: DUSK EMERGENCE SURVEY RESULTS.....	74

APPENDIX

APPENDIX 1: LEGISLATION AND POLICY RELATING TO STATUTORY AND NON-STATUTORY DESIGNATED SITES AND PLANNING POLICY RELEVANT TO SITE	77
APPENDIX 2: PROTECTED SPECIES LEGISLATION RELEVANT TO SITE.....	82
APPENDIX 3: SPECIES RECORDED	85
APPENDIX 4: GUIDELINES FOR ASSESSING POTENTIAL SUITABILITY OF COMMUTING AND FORAGING AND ROOSTING HABITATS FOR BATS.....	87
APPENDIX 5: RECOMMENDED SURVEY NUMBER FOR DUSK EMERGENCE SURVEYS	88

Acer Ecology

APPENDIX 6: PROTECTIVE BARRIERS	89
APPENDIX 7: GCN EDNA FIELD SURVEY PROTOCOL GUIDANCE EXTRACT	90
APPENDIX 8: GREAT CRESTED NEWT EDNA GUIDANCE STEP BY STEP SAMPLE COLLECTION GUIDE ...	91
APPENDIX 9: SURESCREEN SCIENTIFICS LABRORATORY ANALYSIS	93
APPENDIX 10: EDNA SURVEY RESULTS	95
APPENDIX 11: SURVEYOR EXPERIENCE.....	96
APPENDIX 15: DARKEST POINT OF THE SURVEY	97

Document Verification Table

Former Llanwern Steelworks, Newport Ecological Impact Assessment				
Revision	Date	Prepared by	Checked by	Verified by
1.0	02 September 2026	Ellis Cleland Assistant Ecologist <i>E. Cleland</i> and Megan Davies Assistant Ecologist <i>Megan Davies</i>	Lydia Tutton Consultant Ecologist <i>Lydia Tutton</i>	Paul Hudson MCIEEM Principal Ecologist <i>Paul Hudson</i>

Acer Ecology Ltd accepts no responsibility or liability for the use of this document, other than by the client for the purpose for which it was originally commissioned and prepared

Acer Ecology

Summary

Brief and Site Location	Acer Ecology Ltd was commissioned by Heidelberg Materials to undertake an Ecological Impact Assessment of land at the former Llanwern Steelworks on Queen's Way, Newport NP19 4QX, within the administrative boundary of Newport City Council.
Development Proposals	The proposed works comprise the demolition of all buildings within the site, including two large industrial structures and associated outbuildings, together with removal of the existing cesspit and associated infrastructure. Works will require localised scrub clearance within woodland in the south-west of the site.
Impacts to Protected Sites	The Gwent Levels (Nash and Goldcliff) SSSI lies adjacent to the site and could be indirectly affected by pollution, sedimentation or changes in local hydrology during demolition and cesspit removal works. No direct habitat loss within the SSSI is proposed. A Demolition Environmental Management Plan (DEMP) will be required to minimise potential impacts on Gwent Levels (Nash and Goldcliff) SSSI and to ensure appropriate pollution prevention and surface water management measures are implemented.
Impacts to Key Habitats and Protected Species	There is potential for impacts to nesting birds, roosting bats, otters, water vole and small mammals.
Invasive Species	No invasive species listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) were recorded during the site visit. Patches of Buddleia are present along the eastern boundary wall and within areas of sparsely vegetated urban land on site. This species is highly invasive and detrimental to biodiversity but not listed on Schedule 9. Preventative measures are outlined in Section 4.
Further Surveys	No additional species-specific surveys are considered necessary at this stage; however, a pre-commencement otter inspection of features potentially affected by the works will be required as detailed below.
Required Actions	The following provisional recommendations have been formulated based on the development proposals available at the time of writing: Further Surveys: Pre-commencement inspection of adjacent ditches and wet woodland for otter. Avoidance Measures: The works will not require the removal of any trees including those with PRF's or unknown PRF status; Avoid vegetation clearance during the bird nesting season (March–August) where possible; Schedule demolition of Building B10 for the winter period where feasible to reduce risk of harming nesting pigeons. Precautionary Measures: Pre-works nesting bird checks (including B10); Compliance with General Licence 002 where applicable; Precautionary working methods for amphibians and small mammals during vegetation clearance; Good construction practices for mammals (escape ramps, overnight covering of excavations); Precautionary measures for bats; and

Acer Ecology

	Precautionary measures for GCN. Mitigation Measures: Species deterrence measures; and The implementation of a 15 m buffer between unlicensed works and suitable water vole habitat.
Licensing Requirements	An NRW Protected Species mitigation licence with respect to bats and GCN will not be required. However, if at any point during the works any of these species are found on site the works will need to cease and the appropriate licence obtained. An NRW Protected Species mitigation licence with respect to water voles will be required to proceed with works that will impact suitable water vole habitat including the removal of the cesspit, suitable habitat is shown in plan 8.
Conclusions	There is a requirement for water vole mitigation licensing as per the results of the further surveys. Without obtaining a mitigation licence, to proceed with works within the suitable habitat and 15 m buffer area shown in plan 8, there would likely be adverse impacts to water voles. Works including demolition outside of the suitable water vole habitat and 15 m buffer may proceed. Provided that the measures detailed in Section 4 are implemented and the appropriate licence obtained, the impacts of the development to protected habitats and species will be controlled and minimised. The precautionary measures outlined above will be required to minimise any residual risk to protected species such as reptiles, otters and small mammals that may occasionally be present. Opportunity for enhancement measures to be implemented is limited due to a change in the site's ownership. If development does not commence within 12 to 18 months of the date of this report, an update survey is likely to be necessary, in line with guidance from Natural Resources Wales (NRW) and BS 42020:2013, to confirm that site conditions remain unchanged.

1. Introduction

1.1. Brief and Site Location

Acer Ecology Ltd was commissioned by Heidelberg Materials to undertake an Ecological Impact Assessment (EcIA) of land at the former Llanwern Steelworks on Queen's Way, Newport NP19 4QX, within the administrative boundary of Newport City Council (centred on Ordnance Survey Grid Reference ST 36297 85955)¹. The baseline ecological condition of the site (as defined by the red line boundary shown on Plan 1) was assessed. The EcIA identifies designated sites, habitats and protected or notable species that may be affected by the proposed development, evaluates their ecological importance, and assesses the significance of potential impacts.

1.2. Site Description

The approximately 1.9-hectare site contains woodland along its western and southern boundaries but is otherwise dominated by hardstanding and several buildings associated with the former steelworks. The wider landscape includes extensive industrial development to the north and east, with open farmland to the south and west, and the city of Newport located around 2 km to the west.

The site is generally level with no topographical features of ecological relevance and lies at an elevation of roughly 7 m above ordnance datum (AOD).

1.3. Proposed Works

The proposed works comprise the demolition of all buildings within the site, including two large industrial buildings, several smaller outbuildings, office structures and a garage.

The works will also include removal of the existing cesspit and associated infrastructure located within woodland in the south-west of the site. This will require localised scrub clearance and ground disturbance within the adjacent woodland habitat, all trees within this area will be retained.

Vegetation clearance may also be required around the smaller outbuildings to facilitate safe demolition access. The majority of boundary woodland and vegetation outside of the immediate footprint of the cesspit removal and demolition works will be retained.

1.4. Scope of Report

1.4.1. Ecological Impact Assessment

This report assesses the ecological conditions within the site and its immediate Zone of Influence (ZoI), focusing on Important Ecological Features in accordance with CIEEM (2024).

The study comprised:

¹ Latitude and Longitude: 51.56886, -2.92050 / what3words: spite.dive.bucked

Acer Ecology

A desk study and Extended UKHab survey to identify designated sites, habitats and protected/notable species;

Evaluation of ecological receptors and assessment of potential impacts associated with the proposed works;

Water vole surveys to determine presence, distribution and potential impacts, and to inform mitigation and licensing requirements;

Great crested newt eDNA survey to determine presence/likely absence and the need for further survey, mitigation or licensing;

Dusk emergence surveys to assess bat roosting activity and determine any further survey, mitigation or licensing requirements; and

Recommendations for avoidance, mitigation, compensation and enhancement measures.

2. Methods

2.1. Scope of Assessment

This assessment follows the Chartered Institute of Ecology and Environmental Management's '*Guidelines for Ecological Impact Assessment in the UK and Ireland*' (CIEEM, 2024). It focuses on 'Important Ecological Features' within the 'Zone of Influence' (ZoI), defined as ecological features of sufficient value to merit detailed consideration within the impact assessment process. The ZoI defines the spatial extent over which construction and operational activities could realistically give rise to ecological effects, either directly or indirectly. The ZoI defines the area within which ecological receptors may experience direct, indirect or cumulative effects arising from the proposed works.

2.2. Desk Study

The desk study establishes ecological context and identifies historical and contemporary records that may influence constraints.

2.2.1. Protected Sites, Habitats and Species

Datasets were obtained from statutory and local sources to identify designated sites and protected or notable species records within the search radii defined in Table 1.

Table 1: Sources of Data

Source	Data Type	Search Radius
Natural Resources Wales (NRW) Geographical Information Systems (GIS) Layers	Statutory and non-statutory nature conservation designated sites	Ramsar sites, Special Area of Conservation (SACs), Special Area of Protection (SPAs), Site of Special Scientific Interest (SSSIs), National Nature Reserves (NNRs), Local Nature Reserves (LNRs), Ancient Semi-Natural Woodland (ASNW), Restored Ancient Woodland Sites (RAWS) and Plantations on Ancient Woodland Sites (PAWS) - 2 km buffer SACs (designated for bats (lesser and greater horseshoe)) - 10 km buffer NRW P-Sensitive SAC Catchment Data – 2 km buffer
South East Wales Biological Records Centre (SEWBRc)	Protected species records and Sites of Importance for Nature Conservation (SINC) OR Site of Nature Conservation Importance (SNCI) (SEWBRc reference: 0256-742) dated 12/02/2026	1 km buffer 1 km buffer.

All available records of bat roosts, badgers, dormice, amphibians, and reptiles were considered. For other species, 10 years prior to the survey date (i.e. 2016–2026) was considered sufficiently current to inform baseline conditions.

A 1 km desk study search radius for protected species was applied, which is considered proportionate given the small size of the Site and in accordance with CIEEM guidance.

2.2.2. Landscape Context

The site and wider landscape were assessed and characterised using aerial imagery Ordnance Survey maps and SEWBRc data. Off-site habitats with potential ecological relevance, such as ponds within 0.5 km, were identified and included in the assessment where appropriate to inform assessments of habitat connectivity, ecological networks and potential species movement.

2.2.3. Ancient Woodland

Ancient woodland was considered separately. Although it is not a statutory designation, it is a material planning consideration and is afforded a high level of protection under Planning Policy Wales as an irreplaceable habitat.

2.2.4. Planning Authority

The Newport City Council planning portal² was reviewed for historical ecological information associated with previous planning applications of the site and its immediate surroundings.

2.3. Field Study

2.3.1. Personnel and Weather Conditions of Survey

The initial field survey was undertaken in dry conditions with good visibility on 10th February 2026 by Ella Newmarch³, Jack Martin⁴ and Ellis Cleland⁵.

2.3.2. Vegetation and Habitats

Habitats were mapped using the standard UK Habitat Classification (version 2) codes (UK Hab 2023)⁶. Dominant and readily identifiable plant species were recorded within each habitat type. Target notes were used to record features of ecological interest. A habitat plan was subsequently digitised using QGIS 3.40 (see Plan 5).

² <http://www.newport.gov.uk/en/Planning-Housing/Planning/Planning-permission/Planning-applications/Planning-applications.aspx>

³ Ella graduated from Bristol University with an MSci in Biology. She is an Assistant Ecologist at Acer Ecology.

⁴ Jack graduated with a BSc Zoology and a MSc Wetland Science and Conservation and is currently acting as an Assistant Ecologist for Acer Ecology. Jack is listed as an accredited agent on Paul Hudson's bat licence (S091671-2).

⁵ Ellis graduated with a degree in Wildlife Ecology and Conservation Science from the University of the West of England. He is undertaking his first full season at Acer Ecology where he has been involved in a wide range of ecological survey and monitoring work across South Wales and the West of England. Further details of his qualifications and experience can be found at <https://www.linkedin.com/in/ellis-cleland-60a314256/>

⁶ The survey focused on primary codes and essential secondary codes. Non-essential secondary codes were not recorded, although relevant features were described in the habitat descriptions. Some features such as trees and ponds were mapped as 'primary features' and illustrated on the plan rather than being identified using numerical secondary codes.

Habitats of principal importance (Section 7 of the Environment Wales Act 2016⁷) were identified where present within the site.

Invasive non-native plant species listed under Schedule 9⁸ of the Wildlife and Countryside Act 1981 (as amended) were recorded where present.

2.3.3. Protected and Notable Species

Protected and notable species were assessed with reference to relevant UK and Welsh legislation, Section 7 species, local conservation priorities and species of conservation concern.

Only species with a realistic likelihood of occurring on or near the site, based on habitat suitability and local records, were considered. The survey methods applied to relevant species groups are detailed below.

Birds

Incidental observations of bird species were recorded during the survey, along with features that could support nesting or sheltering birds such as trees, hedgerows, buildings, bramble, ruderal vegetation and areas of rough grassland. The site was also assessed for its potential to support species listed under Schedule 1 of the Wildlife and Countryside Act 1981 (as amended). This did not constitute a breeding bird survey and the results represent an incidental assessment only.

Bats

The potential for bats to use the site was assessed in accordance with Bat Surveys for Professional Ecologists: Good Practice Guidelines (Collins, 2023). The assessment considered opportunities for roosting, foraging and commuting bats.

Preliminary Ground-level Roost Assessment

A preliminary ground-level roost assessment of the trees within the survey area was undertaken, looking for features that bats could use for roosting (Potential Roost Features⁹ (PRFs)) and evidence of bats (i.e. droppings in, around or below a PRF; odour emanating from a PRF; audible squeaking at dusk or during warm weather; or staining below the PRF). This ground-level assessment identifies PRFs but cannot confirm internal conditions; aerial inspection would be required if works risk affecting these features. A systematic inspection was carried out around all accessible aspects of each tree, both close to the trunk and from a distance. A high-powered torch (Clulite), endoscope (Snake vision), binoculars, and a ladder were used as appropriate.

⁷ <https://www.gov.wales/sites/default/files/publications/2023-01/list-living-organisms-principal-importance-purpose-maintaining-enhancing-biodiversity-wales.pdf>

⁸ Schedule 9 species of plants and animals are ones that do not naturally occur in Great Britain but have become established in the wild and represent a threat to the natural fauna and flora. The current list is available at <https://www.legislation.gov.uk/ukpga/1981/69/schedule/9>

⁹ Potential Roost Features that bats may use identified by Andrews include: woodpecker-holes; squirrel-holes; knot-holes; pruning-cuts; tear-outs; wounds; cankers; compression-forks; butt-rots; lightning strikes; hazard-beams; subsidence-cracks; shearing cracks; transverse cracks; welds; lifting bark; frost-cracks; fluting and ivy.

Acer Ecology

The trees were assessed for their suitability to support roosting and hibernating bats in accordance with Table 4.2 of the Bat Conservation Trust's *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (Collins, 2023) whereby trees were categorised into the following categories:

None – Either no PRFs in the tree or highly unlikely to be any;

FAR – Further assessment required to establish if PRFs are present in the tree; or

PRF – A tree with at least one PRF present.

Where possible, PRFs were further categorised in accordance with Table 6.2 of the above survey guidance as detailed below:

PRF-I - only suitable for individual bats or very small numbers of bats either due to size or lack of suitable surrounding habitats;

PRF-M - suitable for multiple bats, potentially including maternity use; and

PRF-U - Unknown if PRF could only be used by individuals or could be used by multiple bats, and therefore, used as a maternity roost.

The trees were also assessed for their suitability to support roosting and hibernating bats in accordance with Table 4.1 of the *Bat Conservation Trusts Bat Surveys for Professional Ecologists: Good Practice Guidelines* (Collins, 2016).

Daytime Internal and External Building Inspection and Preliminary Roost Assessment

A systematic search of the exterior and interior of all the buildings on site was undertaken, looking for features that bats could use for entry/exit and roosting¹⁰ and to search for the presence of bats or evidence of bat use, such as droppings, feeding remains, urine staining, scratch marks and the remains of dead bats. A high-powered torch (Clulite), an endoscope (Snake vision), binoculars and a ladder were used as appropriate during the survey.

The locations of the buildings are shown on Plan 3.

The suitability of the buildings for bats was assessed in accordance with Table 4.1 of the Bat Surveys for Professional Ecologists (Collins, 2023). Assessment of 'classic' and 'non-classic' winter hibernation potential was undertaken with consideration of Section 4.3.7 and Figure 1 of the Bat Surveys for Professional Ecologists (Collins, 2023).

Terrestrial Habitat Assessment

A preliminary assessment of the value of the site for bats (and any potential roost sites therein) was made in accordance with Table 4.1 of the Bat Surveys for Professional Ecologists (Collins, 2023) (see Appendix 4). The assessment was based on the relative abundance and quality of habitat features within the site, and surrounding landscape, suitable for roosting, foraging and commuting bats.

¹⁰ Bats may utilise gaps as small as 8mm by 20mm (Bat Conservation Trust, Cluster files leaflet)

An assessment of the site's value for foraging and commuting bats was also undertaken.

Dusk Emergence Survey

Three surveyors undertook both the dusk emergence surveys on B3 on the 23rd June and the 21st July 2026. Four surveyors undertook both the dusk emergence surveys on B4 on the 10th June and 20th July 2026. Four surveyors undertook both the dusk emergence surveys on B5 on the 22nd June and 22nd July 2026. Surveyor details for all dusk surveys can be found in Appendix 14.

Surveys were undertaken following the methodology detailed in Section 7.2 of the Bat Survey Guidelines (Collins, 2023), with the whole of the building was kept in view of the surveyors at all times. The surveyors were all equipped with Elekon Batlogger M bat detectors and a Nightfox Red infrared camera. Video footage was subsequently viewed using VLC Media Viewer. Screenshots one of the cameras at the darkest point of each survey is provided in Appendix 15 to illustrate the field of view and visibility.

Dormice

The site was assessed for its potential to support dormice (*Muscardinus avellanarius*) in accordance with Section 3.2 of the third edition of the Hazel Dormouse Conservation Handbook (Bullion *et al.*, 2025) with key considerations being suitable food sources, nest site availability, structural complexity, and habitat connectivity.

The survey included a search for characteristic hazelnut remains where suitable vegetation existed, and a review of desk study data to inform likelihood of presence.

Great Crested Newts

An initial screening of two waterbodies, one to the west and one to the south of the site (labelled A and B/C on plan 4), was undertaken to determine which were potentially suitable for supporting GCN. The suitable waterbodies were subsequently subject to an eDNA survey.

The water bodies were surveyed by Ellis Cleland¹¹ and Megan Davies¹² on the 10th June 2026, following the field water sampling protocol set out within Appendix 1 (page 135) of the 'Analytical and methodological development for improved surveillance of the Great Crested Newt – WC1067 and Appendix 4 (page 10) of the Technical advice note for field and laboratory sampling of great crested newt (*Triturus cristatus*) environmental DNA' (DEFRA, 2013)¹³. The samples were then delivered to SureScreen Scientifics for laboratory analysis on the 18th June 2026. The laboratory testing adheres to strict guidelines laid down in

¹¹ Ellis graduated with a degree in Wildlife Ecology and Conservation Science from the University of the West of England. He is undertaking his first full season at Acer Ecology where he has been involved in a wide range of ecological survey and monitoring work across South Wales and the West of England. Further details of his qualifications and experience can be found at <https://www.linkedin.com/in/ellis-cleland-60a314256/>

¹² Megan graduated with a degree in Marine Geography from Cardiff University, she is now working as an Assistant Ecologist at Acer Ecology

WC1067 – Analytical and Methodological Development for Improved Surveillance of the Great Crested Newt, Version 1.1.

The locations of the two waterbodies are shown on Plan 4.

Otters

A preliminary assessment for signs of otter (*Lutra lutra*) was undertaken following the advice provided by Strachan & Jefferies (1996) and Chanin (2003). Where access was available, the banks of the watercourses were searched for evidence of otter activity within 10 m of the bank. Field signs of otter were recorded if present including spraints (faeces showing food remains), footprints, feeding remains and couches (above ground resting sites normally in thick vegetation cover), as well as potential or actual breeding sites and resting places (i.e. holts or natal dens) which are usually found under roots of bank side trees or in rock piles.

Access upstream and downstream of the site was largely restricted, with only limited access available.

Water Voles

Water vole surveys were undertaken in accordance with *The Water Vole Mitigation Handbook* (Dean et al., 2016), supplemented by *Water Vole Field Signs and Habitat Assessment: A Practical Guide to Water Vole Surveys* (Dean, 2021).

The results of the field survey are found in Plan 7.

Two daytime surveys of the drainage ditches (reens), wet woodland margins and the waterbody associated with the cesspit within and adjacent to the site were undertaken on 23rd June 2026 and on the 22nd July by Megan Davies¹⁴ and Tom Barlow-Maynard¹⁵, both experienced water vole surveyors.

Where access and health and safety considerations permitted, both banks of the watercourse were surveyed, with particular attention given to the marginal vegetation and the toe of the bank. The surveyor accessed the areas most likely to support field signs by walking the banks. Particular attention was given to the zone extending approximately 1–2 m up the bank and 1–2 m into the water from the toe of the bank, together with any extensive marginal vegetation, islands or tussocks providing potentially suitable water vole habitat.

The survey included searches for water vole droppings and latrines, feeding remains, burrows, nests, footprints and runs through vegetation, together with any direct observations of water voles. Field signs were interpreted collectively where appropriate, recognising that droppings provide the most reliable diagnostic field sign when considered in isolation. Evidence of other relevant riparian mammals and

¹⁴ Megan graduated Cardiff University with a BSc in Marine Geography; she is now working as an assistant ecologist at Acer ecology.

¹⁵ Tom is studying BSc wildlife ecology and conservation science at the University of West England, he is now working as an assistant ecologist at Acer Ecology

potential predators, including American mink (*Neogale vison*), otter (*Lutra lutra*) and brown rat (*Rattus norvegicus*), was also recorded where encountered.

The extent of the survey area was determined with reference to the nature and scale of the proposed works and associated potential impacts. The survey encompassed the development footprint, including any temporary working areas, together with an appropriate length of connected watercourse upstream and downstream. For very small-scale works affecting up to approximately 15 m of watercourse, this would normally comprise the works area plus at least 100 m upstream and 100 m downstream, with a greater survey extent required for larger-scale works or where necessary to understand impacts upon connected water vole habitat.

All water vole field signs encountered were recorded and mapped, together with relevant observations concerning habitat suitability. Habitat conditions were reassessed during each survey visit because vegetation structure, water levels and the suitability and use of different parts of a watercourse can change substantially during the survey season.

Surveys were undertaken under suitable conditions, avoiding periods where recent heavy rainfall, flooding or unusually high water levels could have removed or obscured field signs and thereby reduced survey reliability. Appropriate biosecurity measures were implemented to minimise the risk of transferring invasive species or pathogens between watercourses.

Where access was possible, the watercourse and its banks were searched for evidence of water vole activity with the use of waders, including signs such as faeces, latrines, feeding stations, lawns, burrows, nests, footprints and runways. Marginal and riparian vegetation was inspected from at least 2m from the water channel on both banks throughout the entire length of surveyed watercourse, where access permitted. This survey effort exceeds that detailed within Strachan et al (2011).

The extent of the survey area in relation to the proposed works was determined, based on the nature and magnitude of the potential impacts. For works temporarily affecting up to 50 m of a watercourse an additional 200m survey area up and downstream of the site boundary is considered sufficient in line with section 3.3.2 of the Water Vole Mitigation Handbook, (Dean et al,2016).

The field study was undertaken during the optimal period for recording water vole breeding territories, marked by latrines (late-April to early-October inclusive).

The survey guidelines (Dean et al, 2016), recommend that the survey area is split into 50-100m transects. The suitable and accessible habitat within the survey area is limited in its extent therefore the areas surveyed were divided into distinct zones however the lengths of these zones did not reach 50-100m in length (plan 4). Any field signs observed were recorded within each section. The number of each type of field sign in each section surveyed was ranked as either abundant, frequent, scarce or none. The presence

Acer Ecology

of mink (*Neovison vison*), otter (*Lutra lutra*) and brown rat (*Rattus norvegicus*) signs at each section was also recorded, noting the relative abundance of field signs or live sightings.

Habitat Classification

The aquatic and riparian habitats were assessed for their suitability to support water vole (*Arvicola amphibius*), and searches for field signs were undertaken in accordance with Dean (2021), *Water Vole Field Signs and Habitat Assessment: A Practical Guide to Water Vole Surveys*, with reference to Dean et al. (2016), *The Water Vole Mitigation Handbook*.

White-Clawed Crayfish

Where access was available, an assessment of the banks of the unnamed watercourse adjacent to the west and south of the site was undertaken to assess its suitability to support white-clawed crayfish (*Austropotamobius pallipes*) (WCC), based on the habitat requirements set out in the Ecology of the White-Clawed Crayfish Handbook (Holdich, 2003). Specifically, the presence of undermined/overhanging banks, soft banks for burrows, cobble and rock substrate, submerged refugia and macrophytes. Due to the sub-optimal character of the water body near the site and absence of records returned from SEWBReC of this species within 1 km of the site, there is negligible likelihood of WCC being present within the site. They are therefore not mentioned further in this report.

Badgers

The site and any accessible land within 30 m of its boundary were assessed for their suitability to support badger (*Meles meles*) activity. The survey included inspection of all accessible areas for:

- Setts – including main, annex, subsidiary and outlier holes;
- Foraging evidence – snuffle holes and characteristic foraging patches;
- Latrines and dung pits – typically along territorial boundaries;
- Well-worn pathways and footprints – indicating regular movement routes; and
- Hairs caught on fences or vegetation.

Habitat connectivity to surrounding green space was also evaluated to determine the likelihood of badgers moving across the site or using boundary features as commuting routes.

Reptiles

The site was assessed for its potential to support reptiles in accordance with the *Herpetofauna Workers' Manual* (JNCC, 2003), the *Reptile Management Handbook* (Edgar et al., 2011) and the *Reptile Mitigation Guidelines Technical Note TIN 102* (Natural England, 2013). Habitat suitability was evaluated with reference to key requirements for common reptile species, including: vegetation type and structure; insolation (sun exposure); slope aspect; topography; surface geology; habitat connectivity; habitat size; prey abundance;

refuge opportunity; hibernation opportunity; egg-laying potential for grass snake (*Natrix helvetica*); public pressure; percentage of shade; levels of disturbance and management regime.

Field signs were searched for opportunistically during the walkover, including shed skins, sightings and warming behaviour near suitable microhabitats.

No artificial refugia were installed; only incidental observations were made during walkover.

Hedgehogs

The site's potential to support hedgehogs was assessed in accordance with *Hedgehogs and Development* (People's Trust for Endangered Species and British Hedgehog Preservation Society, 2023)¹⁶. Suitability for hedgehog was assessed based on the presence of sheltering opportunities, foraging habitat and connective vegetation corridors.

Signs of hedgehog presence, such as tracks, droppings and established runs, were searched for opportunistically during the site walkover.

Other Species

General habitat suitability and incidental sightings of other animal species were also noted.

2.3.4. Assessment of Ecological Value

The value of the habitats and features of the site have been provisionally evaluated and graded in accordance with Section 4.7 of the Guidelines for Ecological Impact Assessment in the United Kingdom and Ireland (CIEEM, 2024). The level of value attributed to each ecological receptor is defined using a geographic hierarchy, with international importance at the highest level, followed by national, regional, metropolitan, county or local authority-wide significance, and finally local value. Value assessments were undertaken using a precautionary approach where data gaps existed.

Potential impacts on important ecological features (species, habitats and ecosystems¹⁷) are identified and assessed. Mitigation measures have been devised following the mitigation hierarchy and appropriate mechanisms for securing mitigation measures have been identified.

2.3.5. Limitations

General Temporal Limitations

Any ecological survey can only identify what was present on-site at the time the survey was conducted and habitat usage by species can change over time.

Restricted Access to Water Bodies Within 0.5 km of Site (Great Crested Newt)

¹⁶ <https://www.hedgehogstreet.org/wp-content/uploads/2023/10/PTES-BHPS-Developers-leaflet-Sept-23.pdf>

¹⁷ The 2024 EcIA Guidelines from CIEEM make it clear that an EcIA should consider the impacts upon ecosystems, as well as habitats and species. Statements to this effect are found throughout the document, including in sections 1.3, 1.9, 2.3, 4.1 and 4.8 etc.

Access to the water bodies within 0.5 km of the site was not possible as they are situated on private land and access permissions had not been agreed at the time of the survey, therefore a Habitat Suitability Index (HSI) (Oldham *et al.*, 2000) Assessment of these ponds could not be undertaken as part of the study. Only the watercourse directly adjacent to the site was assessed.

This represents a constraint as no significant physical barriers were identified that would prevent great crested newts (GCN) from dispersing towards the proposed development site. The surrounding landscape comprises rough grassland, scrub, drainage ditches and pond features which collectively provide suitable terrestrial habitat and ecological connectivity for GCN. In the absence of HSI data for nearby ponds, a precautionary approach has been applied when assessing the potential for GCN presence and associated constraints.

Restricted Access to Water Bodies Within 0.5 km of Site (Water Vole)

Lack of access to water bodies within 0.5 km of the proposed works represent a constraint to surveying the area for water vole presence. The proposed works will temporarily affect more than 50 m of the adjacent watercourse; therefore, surveys should extend to 200 m upstream and downstream of the works (Dean *et al.*, 2016). It was not possible to access more than approximately 40 m of the reens' bank to the south and approximately 20 m of the reens' bank to the west. No waterbodies that were further west or south of the reens could be surveyed due to constrained access.

Evidence of water vole presence, comprising feeding remains and runways, was recorded along the southern reens. No evidence of water vole was recorded along the western reens or within the waterbody adjacent to the cesspit. The survey confirmed that water voles are present within the wider connected reens network, although the absence of latrines prevented an assessment of population size or breeding territories.

Access restrictions prevented the full recommended survey extent from being completed, with approximately 40 m of the southern reens and 20 m of the western reens accessible for survey. This represents a survey limitation. However, the proposed works do not involve direct works to the reens, their banks or associated marginal vegetation, with impacts limited to potential indirect effects arising from vegetation clearance and ground disturbance associated with removal of the cesspit. On this basis, the available survey information is considered sufficient to inform the current impact assessment, subject to appropriate stand-off distances, pollution prevention measures and precautionary working methods being maintained during the works. If the final construction methodology requires works within or immediately adjacent to suitable water vole habitat, further assessment will be required to determine the need for additional mitigation and/or licensing.

Floor Covered with Detritus

In some of the buildings, areas of the floor were covered with detritus, which limited visibility and reduced the ability to reliably detect bat droppings.

3. Baseline Ecological Conditions, Evaluation and Development Impacts

The current condition of the habitats on site, along with any confirmed or potential presence of protected species, is outlined in this section. It also identifies the possible effects of the proposed development on protected sites, on-site habitats, and any protected or notable species. These effects include both direct and indirect impacts during construction and once the development is operating.

A summary of relevant legislation and planning policies relating to protected sites, habitats and species is provided in Appendices 1 and 3.

3.1. Statutory Nature Conservation Designated Sites

This section identifies statutory and non-statutory nature conservation designations within the Zone of Influence and assesses whether the proposed works have the potential to affect them.

Statutory Sites (SACs or SSSIs) Designated for Bats within 10 km of Site

NRW guidance identifies a 10 km zone of influence for horseshoe bat SACs to ensure that functionally linked landscapes including foraging and commuting routes are assessed appropriately.

Statutory Sites Notified for Bats Within 10km

No SACs or SSSIs that have been specially designated for bats lie within 10km of the site.

SSSIs within 2 km of Site

The proposed development site lies within 2 km of the following statutory sites (see Plan 2):

Table 2: Statutory Sites Designated Within 2 km

Site Name and Designation	Description	Distance and Direction from Development Site	Development Impacts
Gwent Levels – Nash and Goldcliff SSSI ¹⁸	The Gwent Levels are one of the largest reclaimed wet pastures in Great Britain. The Nash and Goldcliff area forms an important part of the Gwent Levels system and is of particular botanical interest as it is the only area in Wales for the Least Duckweed <i>Wolffia arrhiza</i> . There is also an interesting community where two species of hornwort <i>Ceratophyllum submersum</i> and <i>C. demersum</i> grow together. The invertebrate interest is also high, as rare and notable species such as	0.01 km to the south and west	The SSSI adjacent to the development site boundary to the south and west. Without mitigation and precautionary measures, direct and indirect impacts as a result of the demolition works are considered likely. A DEMP will be required to address these risks as outlined in Section 4.

¹⁸ https://naturalresources.wales/media/648438/SSSI_0649_Citation_EN0014ad2.pdf

Acer Ecology

	<i>Odontomyia ornata</i> , <i>Oplodontha viridula</i> and <i>Hydaticus transversalis</i> are present.		
Gwent Levels – Whitson SSSI ¹⁹	The Whitson area is of particular importance for its large number of nationally rare and notable invertebrate species. A total of 65 of these rare invertebrates have been recorded in this area including <i>Anthomyza bifasciata</i> , <i>Coptophlebia volucris</i> and <i>Hydrophilus piceus</i> . This area is also important for its botanical interest as it contains the nationally rare hairlike pondweed <i>Potamogeton trichoides</i> and is the only location in Gwent for the tussock sedge <i>Carex elata</i> . Arrowhead <i>Sagittaria sagittifolia</i> also grows in abundance in several main reens in this area.	0.56 km to the south-east	The SSSI lies close to the development site and is hydrologically connected via several drainage ditches. Without mitigation and precautionary measures, indirect impacts as a result of the demolition works are considered likely. A DEMP will be required to address these risks as outlined in Section 4.

3.2. Non-statutory Nature Conservation Designated Sites

SINCs

No Sites of Importance for Nature Conservation (SINCs) were identified within 1 km based on SEWBRcC records.

Ancient Woodland Sites

The following table shows the ancient woodland sites within 2 km of the site:

Table 3: Ancient Woodland Sites Within 2 km

Ancient Woodland Site	Number within 2 km of Site
Ancient Semi-Natural Woodland (ASNW)	Four
Restored Ancient Woodland Sites (RAWS)	N/A
Plantations on Ancient Woodland Sites (PAWS)	N/A
Ancient Woodland Sites of Unknown Category	N/A
Nearest Area of Ancient Woodland	An unnamed area of ASNW located 1.7 km to the north of the site.
Development Impacts	No significant impacts are anticipated. All ancient woodland blocks lie well outside the disturbance and pollution ZoI and are separated from the site by a large industrial area, leaving minimal chance for indirect impacts.

3.3. Habitats and Vegetation

The habitats present within the site are shown on Plan 5. A plant species list is provided in Appendix 3.

¹⁹ https://naturalresources.wales/media/636495/SSSI_0148_Citation_EN001a06b.pdf

Acer Ecology

Detailed habitat descriptions, ecological values and impact assessments are presented in the following table.

Acer Ecology

UK Habs Habitat	Description	Ecological Value	Development Impact Assessment
W1f7 Other Lowland mixed deciduous woodland	A strip of mature woodland runs along the western and southern site boundaries. The dominant tree species is black poplar (<i>Populus nigra</i>), alongside occasional ash (<i>Fraxinus excelsior</i>), birch (<i>Betula</i> spp.) and a Scot's pine (<i>Pinus sylvestris</i>). The ground flora consists primarily of ivy (<i>Hedera helix</i>). A close inspection of the ground flora was not possible as the woodland is fenced off and inaccessible.	This habitat corresponds to the <i>Lowland Mixed Deciduous Woodland</i> priority habitat listed under Section 7 of the Environment (Wales) Act 2016.²⁰. Local value. UKHab distinctiveness. high	No trees will be removed to facilitate the removal of the cesspit. A number of trees within this area have been identified as having features that could support bat roosting (e.g. cavities, rot holes, split stems and areas of deadwood), although this has not been confirmed through detailed inspection. As such, the works have the potential to result in temporary disturbance to retained woodland through vegetation clearance and construction activity. Impacts are considered to be localised but potentially significant at the individual tree level where features are present.
H3d Bramble scrub	Dense bramble scrub surrounds the buildings to the west of the site. Bramble is the dominant species alongside ivy and occasional buddleia (<i>Buddleia davidii</i>).	Site value. UKHabs distinctiveness. medium	Sections of dense bramble scrub will require clearance to facilitate demolition of existing buildings and access for the removal of the cesspit. This will result in the permanent loss of small, localised areas of scrub habitat and temporary disturbance to retained surrounding vegetation during construction activities. Given the limited extent and the presence of similar habitat within the wider site and surrounding landscape, impacts are considered to be minor and localised. Retained scrub will continue to provide foraging and shelter opportunities for common fauna, and precautionary vegetation clearance measures should be implemented to avoid impacts on nesting birds and other wildlife.
G4 Modified grassland	Modified grassland with very short sward height is present in sections surrounding the edges of the site. Abundant species include common knapweed (<i>Centaurea nigra</i>), daisy (<i>Bellis perennis</i>), creeping buttercup (<i>Ranunculus repens</i>) and lesser celandine (<i>Ficaria verna</i>). Frequent species include dove's-foot cranesbill (<i>Geranium molle</i>), yarrow (<i>Achillea millefolium</i>), ragwort (<i>Jacobaea vulgaris</i>), perennial ryegrass (<i>Lolium perenne</i>),	Site value. UKHab distinctiveness. low	Modified grassland will be largely retained and is not expected to be directly affected by demolition works or removal of the cesspit. Minor, short-term disturbance may occur from construction activity and vehicle movements in adjacent areas; however, the habitat will remain intact and functional. Given its low distinctiveness and limited ecological value, the proposed development is anticipated to result in negligible impacts on this habitat.

²⁰ Section 7 list available at <https://www.biodiversitywales.org.uk/environment-wales-act>

Acer Ecology

	ground ivy (<i>Glechoma hederacea</i>), bristly oxtongue (<i>Helminthotheca echioides</i>), ribwort plantain (<i>Plantago lanceolata</i>), Canadian fleabane (<i>Erigeron canadensis</i>) and common ragwort (<i>Jacobaea vulgaris</i>), as well as occasional St John's wort (<i>Hypericum perforatum</i>), common speedwell (<i>Veronica persica</i>), selfheal (<i>Prunella vulgaris</i>), and daffodils (<i>Narcissus</i> spp.). Several unidentified moss species are also present.		
R1f Temporary water bodies	A pool of standing water lies within the woodland to the south-west of the site. This is caused by seasonal water level fluctuations of the adjacent, offsite drainage ditches.	Site value.	This waterbody lies adjacent to the cesspit and will be directly affected by its removal and associated vegetation clearance. Works have potential to modify local hydrology, increase sedimentation and disturb marginal vegetation, which could reduce habitat suitability for amphibians and water voles. Although classified as a temporary waterbody, field observations indicate persistent standing water and strong connectivity with surrounding woodland and drainage features, suggesting potential suitability for amphibians including great crested newt given nearby records. Impacts are therefore considered moderate and precautionary mitigation will be required, including pollution prevention, retention of marginal vegetation.
U1b Developed land – sealed surface	Large areas of the site consist of unvegetated tarmac.	Negligible value. UKHabs very low distinctiveness.	Works will result in localised disturbance and partial removal of sealed surfaces during demolition and construction activities; however, this habitat is of negligible ecological value and supports limited biodiversity interest. Impacts are therefore considered negligible and no specific ecological mitigation is required beyond standard pollution prevention measures to avoid indirect effects on adjacent habitats.
U1b5 Buildings	Several buildings are present around the site including large industrial units and smaller offices and outbuildings. Detailed building descriptions are provided in Section 3.6.3.	Local value UKHabs very low distinctiveness.	All buildings will be permanently cleared. This will have impacts on nesting birds and may have impact on roosting bats.
U1c Urban - Artificial	An area of sand lies to the north-east of the site.	Site value	The sandy substrate is likely to be directly impacted by the proposed development through ground disturbance

Acer Ecology

unvegetated, unsealed surface		UKHabs very low distinctiveness.	and potential removal. Given the very low distinctiveness of this habitat, impacts are considered to be of low ecological significance. Evidence of small mammal activity, likely rabbit burrows, was recorded within this area; therefore, precautionary working methods should be implemented during vegetation clearance and groundworks to avoid harm to common mammals. No significant residual impacts are anticipated.
U1f sparsely vegetated urban land	Along the wall towards the east of the site is a strip of sparse vegetation. Species include buddleia, biting stonecrop (<i>Sedum acre</i>), daisy, St John's wort, fleabane and several birch saplings.	Site value UKHabs low distinctiveness.	This habitat may be subject to localised disturbance and partial removal as a result of demolition works and associated ground disturbance along the eastern site boundary. Given its low distinctiveness and limited extent, impacts are considered to be of low ecological significance. Vegetation clearance may temporarily displace common invertebrates and small fauna; however, these effects are expected to be short-term and reversible. Retained sections will continue to provide minor ecological function within the site.

Acer Ecology

Photo 1: Lowland Mixed Deciduous Woodland



Photo 2: Bramble Scrub



Photo 3: Modified Grassland



Photo 4: Temporary Water Body



Photo 5: Buildings and Tarmac



Photo 6: Sparsely Vegetated Urban Land



Acer Ecology



3.4. Invasive Plant Species

Details of the invasive species recorded are described in detail below:

Species	Occurrence on Site	Legislation	Assessment of Potential Development Impacts
Buddleia	Present throughout the site including at Target Note 3, 4 and 5.	Whilst this species is not listed as a Schedule 9 invasive species, it is a non-native species that poses a conservation threat to native biodiversity and habitats, such that further releases should be regulated. This species has a negative effect on the biodiversity of the site.	The proposed development could result in the spread of buddleia, an invasive ornamental species. Current guidelines from the Non-Native Species Secretariat should be followed when removing this plant, as outlined in Section 4. With appropriate biosecurity and control measures, residual impacts associated with invasive species are not expected to be significant.

3.5. Assessment of Ecological Value of Off-site Habitats

Survey Results

The site is located immediately adjacent to the Gwent Levels (Nash and Goldcliff) SSSI, a nationally designated wetland landscape characterised by an extensive network of reens, ditches, grazing marsh and associated species-rich habitats. The designation supports a diverse assemblage of aquatic flora and fauna, invertebrates, breeding and wintering birds, and protected species including amphibians. Off-site habitats surrounding the development site include drainage ditches, marshy grassland and woodland features which contribute to the ecological connectivity and hydrological function of the wider Gwent Levels landscape.

Assessment of Development Impacts

Given the site's proximity to the Gwent Levels (Nash and Goldcliff) SSSI, potential impact pathways include hydrological alteration, sediment mobilisation, pollution incidents and disturbance associated with demolition, vegetation clearance and removal of the existing cesspit. These works have the potential to

indirectly affect adjacent drainage features which form part of the hydrologically connected ditch network supporting the SSSI.

Due to these sensitivities, a Demolition Environmental Management Plan (DEMP) will be required to ensure appropriate safeguards are implemented during the construction phase. The DEMP should include pollution prevention measures, sediment and runoff control, protection of adjacent drainage features, sensitive vegetation clearance methods and toolbox talks for contractors.

Subject to implementation of a robust DEMP and adherence to best practice construction methods, significant adverse effects on the integrity or qualifying features of the Gwent Levels (Nash and Goldcliff) SSSI are not anticipated.

3.6. Protected and Notable Species

3.6.1. Notable Plant Species

Data Trawl Results

SEWBREC returned records of a large number of rare and/or 'notable' plants (including species regarded as 'Locally Important', LBAP species and UK Red Data Book-listed species).

SEWBReC returned several records of protected plant species or species of principal importance listed under the Environment (Wales) Act 2016 from within 1 km of the site proposed for development.

Two priority plant species were recorded within 1 km of the site, namely: bluebell (*Hyacinthoides non-scripta*) and tubular water-dropwort (*Oenanthe fistulosa*).

Bluebell is primarily protected from unauthorised sale or commercial exploitation through its listing under Schedule 8 of the Wildlife and Countryside Act 1981 (as amended). This legislation does not, however, afford protection against damage or destruction of the plant in the wild.

10 plants listed as species of conservation concern were recorded within 1 km of the site, namely: nettle-leaved goosefoot (*Chenopodium murale*), dittander (*Lepidium latifolium*), corn mint (*Mentha arvensis*), corky-fruited water-dropwort (*Oenanthe pimpinelloides*), oak-leaved goosefoot (*Oxybasis glauca*), early meadow-grass (*Poa infirma*), annual beard-grass (*Polypogon monspeliensis*), marsh dock (*Rumex palustris*), charlock (*Sinapis arvensis*) and rootless duckweed (*Wolffia arrhiza*).

41 plants listed as locally important species were recorded within 1 km of the site, namely: slender sandwort (*Arenaria leptoclados*), yellow-wort (*Blackstonia perfoliata*), intermediate water-starwort (*Callitriche brutia* subsp. *hamulata*), various-leaved water-starwort (*Callitriche platycarpa*), tufted-sedge (*Carex elata*), cyperus sedge (*Carex pseudocyperus*), greater pond-sedge (*Carex riparia*), rigid hornwort (*Ceratophyllum demersum*), viper's-bugloss (*Echium vulgare*), small-flowered crane's-bill (*Geranium pusillum*), round-leaved crane's-bill (*Geranium rotundifolium*), meadow barley (*Hordeum secalinum*), hairy st john's-wort (*Hypericum hirsutum*), stinking iris (*Iris foetidissima*), great lettuce (*Lactuca virosa*), narrow-leaved everlasting-pea (*Lathyrus sylvestris*), fat duckweed (*Lemna gibba*), ivy-leaved duckweed (*Lemna trisulca*),

dwarf mallow (*Malva neglecta*), spotted medick (*Medicago arabica*), white water-lily (*Nymphaea alba*), hawkweed oxtongue (*Picris hieracioides*), hoary plantain (*Plantago media*), black-poplar (*Populus nigra*), small pondweed (*Potamogeton berchtoldii*), bird cherry (*Prunus padus*), wild mignonette (*Reseda lutea*), great yellow-cress (*Rorippa amphibia*), short-styled field-rose (*Rosa stylosa*), grey club-rush (*Schoenoplectus tabernaemontani*), stone parsley (*Sison amomum*), corn parsley (*Sison segetum*), unbranched bur-reed (*Sparganium emersum*), greater duckweed (*Spirodela polyrhiza*), hybrid woundwort (*Stachys × ambigua*), water chickweed (*Stellaria aquatica*), fennel pondweed (*Stuckenia pectinata*), bladderwort (*Utricularia australis*), blue water-speedwell (*Veronica anagallis-aquatica*), grey field-speedwell (*Veronica polita*) and mistletoe (*Viscum album*).

Field Survey Results

No plant species considered to be of national, regional or local significance were recorded on the site.

3.6.2. Birds

Desk Study Results

SEWBRc returned records of 34 priority bird species within 1 km of the site, namely: lesser redpoll (*Acanthis flammea* subsp. *cabaret*), skylark (*Alauda arvensis*), kingfisher (*Alcedo atthis*), pintail (*Anas acuta*), goshawk (*Astur gentilis*), cetti's warbler (*Cettia cetti*), ringed plover (*Charadrius hiaticula*), black-headed gull (*Chroicocephalus ridibundus*), marsh harrier (*Circus aeruginosus*), hen harrier (*Circus cyaneus*), cuckoo (*Cuculus canorus*), reed bunting (*Emberiza schoeniclus*), merlin (*Falco columbarius*), peregrine (*Falco peregrinus*), kestrel (*Falco tinnunculus*), mediterranean gull (*Ichthyophaga melanocephala*), herring gull (*Larus argentatus*), black-tailed godwit (*Limosa limosa*), linnet (*Linaria cannabina*), grasshopper warbler (*Locustella naevia*), curlew (*Numenius arquata*), house sparrow (*Passer domesticus*), wood warbler (*Phylloscopus sibilatrix*), dunnoek (*Prunella modularis*), bullfinch (*Pyrrhula pyrrhula*), garganey (*Spatula querquedula*), starling (*Sturnus vulgaris*), green sandpiper (*Tringa ochropus*), redwing (*Turdus iliacus*), song thrush (*Turdus philomelos*), fieldfare (*Turdus pilaris*), barn owl (*Tyto alba*), hoopoe (*Upupa epops*) and lapwing (*Vanellus vanellus*).

33 birds listed as species of conservation concern were recorded within 1 km of the site, namely: common sandpiper (*Actitis hypoleucos*), long-tailed tit (*Aegithalos caudatus*), teal (*Anas crecca*), mallard (*Anas platyrhynchos*), meadow pipit (*Anthus pratensis*), swift (*Apus apus*), grey heron (*Ardea cinerea*), pochard (*Aythya ferina*), tufted duck (*Aythya fuligula*), dunlin (*Calidris alpina*), knot (*Calidris canutus*), greenfinch (*Chloris chloris*), whitethroat (*Curruca communis*), coot (*Fulica atra*), snipe (*Gallinago gallinago*), swallow (*Hirundo rustica*), common gull (*Larus canus*), lesser black-backed gull (*Larus fuscus*), jack snipe (*Lymnocyrtus minimus*), wigeon (*Mareca penelope*), grey wagtail (*Motacilla cinerea*), wheatear (*Oenanthe oenanthe*), cormorant (*Phalacrocorax carbo*), redstart (*Phoenicurus phoenicurus*), willow warbler (*Phylloscopus trochilus*), green woodpecker (*Picus viridis*), grey plover (*Pluvialis squatarola*), goldcrest

Acer Ecology

(*Regulus regulus*), woodcock (*Scolopax rusticola*), shoveler (*Spatula clypeata*), shelduck (*Tadorna tadorna*), spotted redshank (*Tringa erythropus*) and mistle thrush (*Turdus viscivorus*).

Two birds listed as other bird species (i.e. invasive species) were recorded within 1 km of the site, namely: Canada goose (*Branta canadensis*) and black swan (*Cygnus atratus*).

Field Survey Results

A moderate number of birds were recorded on site, including: feral pigeon (*Columba livia domestica*), and carrion crow (*Corvus corone*).

Feral pigeons were observed roosting within the upper internal levels of Building B10. No active nests were identified during the survey.

Photo 9: Roosting pigeons on upper level of B10



Evaluation of Ecological Value of Site for Birds

The site provides suitable nesting and foraging habitat for common bird species within boundary woodland and areas of dense bramble scrub, particularly along the western and southern site edges. These habitats offer high-quality opportunities for breeding, shelter and foraging for typical woodland-edge and urban-adapted species.

A small number of buildings also provide limited opportunities for roosting birds, with feral pigeons recorded roosting within the upper level of the large industrial building (B10). However, no active nests were identified during the survey and most buildings are of limited suitability for nesting birds due to their modern construction and lack of suitable features.

The remainder of the site, comprising extensive hardstanding, sealed surfaces and heavily modified habitats, provides very limited opportunities for nesting or foraging birds.

Adjacent habitats, including woodland and wetland features associated with the wider Gwent Levels landscape, provide higher-quality habitat for bird species but are largely outside the works footprint.

Overall, the site is assessed as having site-level ecological value for birds. Boundary woodland and scrub represent the key areas of interest for nesting and foraging birds, while the remaining habitats are of low ornithological value.

Impact Assessment of Proposed Development on Birds

The proposed development will involve demolition of buildings and localised vegetation clearance associated with access requirements and removal of the existing cesspit. Boundary woodland and bramble scrub currently provide suitable nesting and foraging habitat for common bird species, and their partial removal will result in the loss of some on-site nesting opportunities. In addition, buildings, particularly the large industrial structure (B10), provide roosting opportunities for urban-adapted species such as feral pigeon.

However, the majority of woodland and scrub habitats will be retained, and extensive suitable nesting and foraging habitat is present within the surrounding landscape, including adjacent woodland and wetland features associated with the wider Gwent Levels. As such, impacts are expected to be localised and temporary at the site scale.

There is a risk of harming nesting birds should vegetation clearance or building works be undertaken during the breeding season (March–August inclusive). These impacts can be avoided through seasonal timing of works (September–February inclusive) or by undertaking pre-clearance checks by a suitably qualified ecologist where works are required during the nesting season. Further mitigation and enhancement measures are provided in Section 4.

3.6.3. Bats

Desk Study Results

SEWBrEC returned one record of bat roosts within 2 km of the site. The roost records are summarised in the table below:

Table 4: Bat Roost Records

Species	Total Number of Records	Distance to Nearest Record	Most Recent Record	Maximum Count
Daubenton's bat (<i>Myotis daubentonii</i>)	One	1.13 km	24/08/2020	Eight

In addition to the roost records, SEWBrEC returned three records of bats foraging or commuting within 1 km of the site. These included: Daubenton's bat (*Myotis daubentonii*), pipistrelle (*Pipistrellus pipistrellus*) and lesser horseshoe bat (*Rhinolophus hipposideros*).

Acer Ecology

Trees

The site contains a number of scattered trees of varying age and condition. The majority of these are semi-mature, with limited structural complexity and low numbers of Potential Roost Features (PRFs). These trees were assessed as having negligible bat roost potential and are not considered further within this report.

However, a small group of trees located within the woodland edge adjacent to the cesspit T1–T3 comprise semi-mature to mature specimens supporting several PRFs, including cavities, split stems, areas of decay and loose bark. These trees will be retained but are described in detail within the table below and illustrated on Plan 5, which should be read in conjunction with this section of the report.

Table 5: Trees Assessed for Bat Suitability

No.	Description	Evidence of Roosting Bats	PRF	Suitability for Roosting Bats (Collins 2023)	Impact of Development
T1	Mature broadleaved tree with bifurcated trunk and extensive decay. Approximately 14–16 m tall with an estimated DBH of ~70–80 cm. The main stem exhibits a large longitudinal split and exposed decaying heartwood extending from approximately 2 m to 6 m above ground level, with associated cavities and loose bark. Surrounding secondary branches show additional deadwood features and minor fissures.	None.	Large longitudinal split forming cavity feature at 2–6 m height on main stem, facing south-east; loose bark and exposed decaying wood associated with split	Further assessment required. PRF-U	Tree likely to be indirectly impacted by vegetation clearance associated with cesspit removal. Further assessment is required prior to works to ensure bats are not adversely affected.
T2	Mature broadleaved tree reduced to a standing dead stem with advanced decay. Approximately 8–10 m tall with an estimated DBH of ~40–50 cm. The main stem exhibits extensive rot with multiple cavities and fissures along the trunk from approximately 1.5 m to 5 m above ground	None.	Multiple cavity features and fissures within decaying trunk between 1.5–5 m height, with potential access points facing south and west; exposed decaying wood and small knot holes	Further assessment required. PRF-U	Tree likely to be indirectly impacted by vegetation clearance associated with cesspit removal. Further assessment is required prior to works to ensure bats are not adversely affected.

Acer Ecology

No.	Description	Evidence of Roosting Bats	PRF	Suitability for Roosting Bats (Collins 2023)	Impact of Development
	level, including exposed decaying heartwood and small knot holes. Sparse ivy present on lower trunk with stems less than 50 mm diameter.				
T3	Semi-mature to mature multi-stem broadleaved tree located adjacent to the drainage channel, with one stem leaning horizontally over the watercourse. Estimated height 10–12 m and DBH 35–45 cm. The tree exhibits a forked structure with areas of decay along the upper stem and a partially split limb creating fissures. Moss and light ivy present on stems	None.	Longitudinal split and decay cavity within upper stem at approximately 4–6 m height, with small fissures along the leaning limb and minor knot holes; features provide potential access points facing south-east over the watercourse	Further assessment required. PRF-U	Tree likely to be indirectly impacted by vegetation clearance associated with cesspit removal. Avoidance measures including retention of trees will be implemented as detailed in section 4 ensure bats are not adversely affected

Photo 10: Longitudinal split and exposed decaying limb providing potential roosting crevice (T1)



Photo 11: Broken topped stem with decay cavity and fissures forming potential roost feature (T2)



Photo 12: Decaying split trunk with open cavity and lifted bark forming potential roost feature



T1, T2 and T3 have been assessed from ground level; however, due to limitations in visibility, it has not been possible to determine whether Potential Roost Features (PRFs) are present. As such, these trees are classified as having unknown bat roost potential, as the trees will be retained a climbing survey is not required to confirm the presence or likely absence of PRFs (including classification as PRF-I or PRF-M where applicable).

Buildings and Other Structures

The buildings on site were assessed externally and internally, where possible, for their suitability to support roosting bats, as set out in the table below:

Table 6: Buildings Assessed for Bat Suitability

Building Number	Description and PRF	Evidence of Bats	Roosting Suitability	Hibernation Potential
B1	Building 1 comprises a small, single-storey utility structure of modern construction. The building has a flat roof with sealed edges, likely concrete or composite panel construction, with no visible roof void. External elevations are finished in smooth panelled walls with tight joints and no gaps, lifted tiles or weathering defects. Fascias and soffits are either absent or flush-fitted and well-sealed. Internally (where visible), the building appears functional with limited void space and minimal structural complexity. No cracks, lifted materials, cavities or features suitable for bat roosting were identified. The building is highly exposed and subject to regular disturbance.	No evidence of bats recorded.	Negligible	Negligible
B2	Building 2 comprises a small, standalone gas utility structure of modern prefabricated construction with a flat roof and sealed roof edges. External walls consist of smooth rendered or composite panels with tight joints and no visible defects. Vegetation (ivy)	No evidence of bats recorded.	Negligible	Negligible

Acer Ecology

	is present on elevations; however, this does not create access points or structural crevices. Ventilation grilles and service fixtures are present but appear screened and sealed. No soffits, bargeboards or lifted materials were observed.			
B3	Single-storey modular welfare building of prefabricated construction with pebble-dash panel walls and a flat mineral felt roof with timber fascia boards. Fascia boards show extensive weathering, rot and splitting, with open joints and lifted sections creating crevice voids at the roof-wall interface. Ivy growth along elevations increases shelter and microclimatic stability. Internally the building is simple with limited loft space; however, external fascia defects provide suitable crevice PRFs. PRFs comprise split and lifted fascia boards, open roof-edge gaps, corner voids and panel junction gaps.	No evidence of bats recorded.	Moderate	Low
B4	Building 4 comprises a single-storey industrial building constructed of brick elevations with a pitched tiled roof. The roof includes traditional tiles with mortar bedding showing localised weathering and small gaps beneath tile edges and at ridge interfaces. Fascias and soffits are present with minor defects and lifting in places, creating potential crevice features. Vegetation, including ivy and adjacent scrub, provides additional sheltered conditions around the structure. Internally (where visible), the building includes roof void space and exposed roof timbers which increase structural complexity and potential roosting opportunities.	No evidence of bats recorded.	Moderate	Low
B5	Building 5 comprises a single-storey modular building of prefabricated construction with a flat felt roof and timber fascia boards. External walls consist of pebble-dash panels with areas of timber cladding, extensively overgrown with ivy. The building includes multiple single-glazed windows and timber doors, with limited roof overhang. The fascia boards are heavily weathered and locally deteriorated, with lifted sections, gaps and rot creating potential access points to shallow roof voids. Ivy growth extends to roof level and into fascia gaps, further increasing crevice availability. Internally, the building appears largely disused with simple partitioned rooms and limited void space.	No evidence of bats recorded.	Moderate	Low
B6	Building 6 comprises a large industrial shed/workshop of steel portal-frame construction with profiled metal cladding over a brick lower course and a pitched roof (including rooflights). Externally, cladding,	No evidence of bats recorded.	Negligible	Negligible

Acer Ecology

	ridge/eaves details and service penetrations appear generally intact and well-sealed, with no obvious lifted sheets, gaps, or crevices suitable for bat access. Internally, the space is large, open and typically well-lit/active, offering limited secluded roosting opportunities and poor microclimatic stability for hibernation.			
B7	Building 7 comprises a small single-storey brick utility structure with pitched tiled roof and timber fascias. The roof tiles are tightly fitted with moss growth but limited lifted or slipped tiles visible. External walls are brick with a boarded window and metal access door, and the interior comprises a simple blockwork utility room containing electrical equipment with no roof void present. No PRFs were identified; features are well sealed with limited gaps and minimal opportunities beneath fascias or within brickwork.	No evidence of bats recorded.	Negligible	Negligible
B8	Building 8 comprises a temporary prefabricated office container raised slightly above ground on metal supports, with corrugated metal walls and a flat metal roof. The structure includes a sealed metal access door, small fixed windows and external air-conditioning units. Construction is modern and tightly sealed with no roof void or internal cavities suitable for roosting.	No evidence of bats recorded.	Negligible	Negligible
B9	Building 9 comprises a small prefabricated control room structure with flat concrete roof, metal framed panels and large sealed glazed windows. The structure is modern and well-maintained with tight construction and minimal gaps, and no roof void or internal cavities suitable for roosting. External fixtures and service penetrations were present but did not provide suitable crevice features.	No evidence of bats recorded.	Negligible	Negligible
B10	Building 10 comprises a large industrial processing building constructed of corrugated metal cladding with a flat and pitched metal roof structure supported by a steel frame. Internally the building is open with exposed steel beams, machinery and artificial lighting, with high levels of disturbance, noise and vibration. The exterior is tightly sealed with limited gaps and no suitable crevice or void features, and internal conditions are unsuitable for roosting due to disturbance and lack of sheltered features.	No evidence of bats recorded.	Negligible	Negligible
B11	Building 11 comprises a long prefabricated modular structure with moulded panel walls and a flat roof, positioned at ground level and adjacent to industrial infrastructure. The	No evidence of bats recorded.	Negligible	Negligible

Acer Ecology

	structure appears modern and tightly sealed with limited external gaps, and no evidence of roof voids or suitable crevice features. Internal conditions are likely subject to disturbance and artificial lighting, further reducing suitability for roosting bats.			
--	--	--	--	--

Photo 13: Eastern elevation of B1 showing flat roof and sealed wall panels



Photo 14: Western elevation of B1 with climbing vegetation and intact panel joints



Photo 15: Internal view of B1 showing electrical equipment and smooth wall/ceiling surfaces



Photo 16: Internal ceiling detail of B1 with strip lighting and tightly sealed panel junctions



Photo 17: Northern elevation of B2 with flat roof and sealed panel construction



Photo 18: Eastern elevation of B2 showing intact wall panels and limited vegetative growth

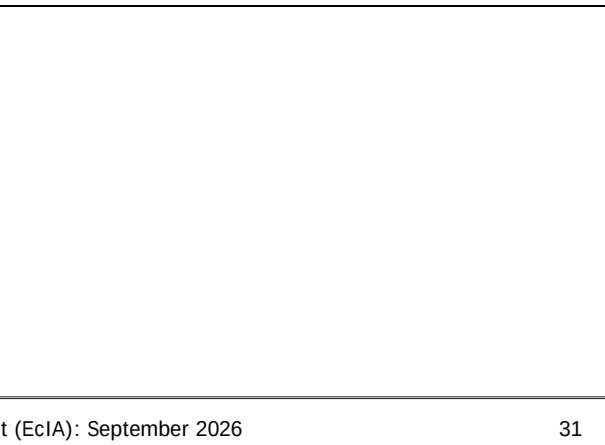




Photo 19: South-eastern elevation and roof junction of B3 showing flat roof structure and fascia detail with minor gaps



Photo 20: Roof edge detail of B3, showing potential crevice at fascia junction suitable for bat access



Photo 21: Close-up of roof corner of B3 showing lifted fascia and exposed crevice providing potential bat access



Photo 22: Internal view of B3 showing exposed insulation



Photo 23: Northern and eastern elevations of B4 with potential gaps along panel joints and roof interface providing possible bat access points



Photo 24: Eastern and southern elevations showing garage area of B4



Photo 25: Northern elevation of B4 with dense ivy coverage and vegetation providing sheltered access to roofline and wall junctions



Photo 26: Close-up of roof conduit penetration showing open gap and lifted material forming a crevice suitable for roosting bats



Photo 27: Northern and eastern elevations of B5 showing vegetated margins providing potential crevice opportunities at panel joints and roof interface



Photo 28: Rear elevation of B5 with glazing and dense scrub/ivy encroachment creating sheltered conditions and potential access points along roofline and wall junctions



Photo 29: Close-up of damaged soffit and fascia creating lifted boarding and crevice feature beneath roof edge



Photo 30: Southern elevation of B5 heavily covered in ivy providing dense vegetative cover and potential access points at roofline and wall junctions



Photo 31: Northern elevation of B6 showing cladding joints and vegetated margins along roofline



Photo 32: Interface between brick substructure and metal cladding of B6 with ivy growth and roof junctions



Photo 33: Internal view of B6 roof structure showing intact metal cladding and well-sealed ridge and beam interfaces



Photo 34: Internal elevation of B6 showing steel frame and roof panels with skylights and suspended crane infrastructure

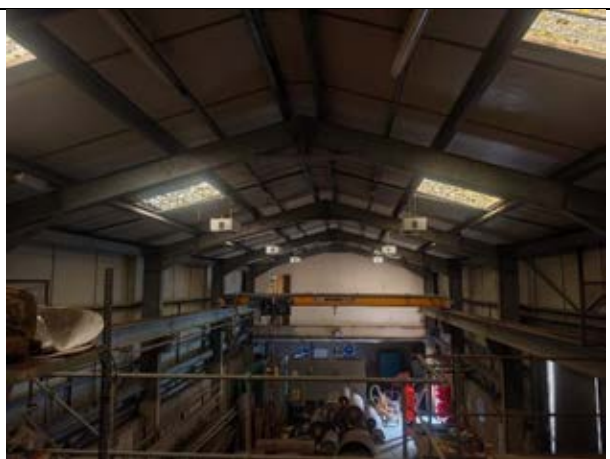


Photo 35: Northern elevation of B7 with pitched tiled roof and limited structural gaps

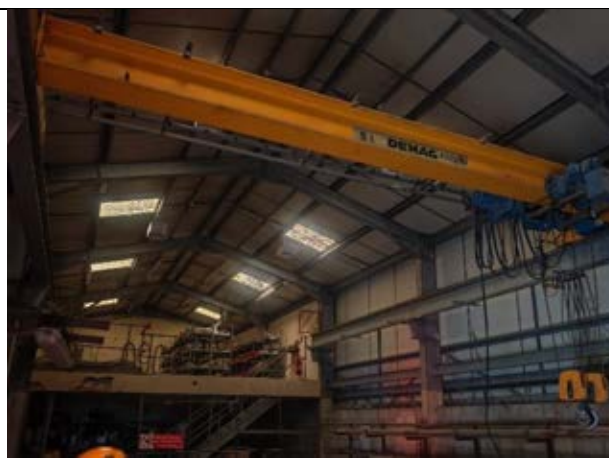


Photo 36: Southern elevation of B7 showing boarded window and intact brickwork with sealed soffits and fascia



Photo 37: Internal view of B7 showing blockwork walls and sealed roof lining with artificial lighting



Photo 38: Eastern elevation of B8 raised on supports with sealed panel construction and limited access points



Photo 39: Western elevation of B9 with flat roof and sealed panel construction



Photo 40: Eastern elevation of B9 showing intact glazing and sealed joints around doors and windows



Photo 41: Eastern elevation of B10 showing metal cladding and sealed façade



Photo 42: Western elevation of B10 showing large metal-clad walls with minimal gaps or features suitable for bat roosting



Photo 43: Internal view of B10 showing industrial machinery and ducting within highly disturbed operational environment



Photo 44: Internal view of B10 showing vertical structural shaft comprising exposed metal framework and artificial surfaces



Photo 45: Western elevation of B11 adjacent to B10, showing sealed panel construction with no visible gaps



Photo 46: Eastern elevation of B11 showing smooth panel surfaces and tightly fitted doors



3.6.4. Potential Bat Access Points and Bat Roosting Features

A systematic inspection of Buildings B1–B11 was undertaken as part of the Preliminary Roost Assessment. The majority of buildings (B1, B2, B6–B11) comprise modern or industrial structures constructed of brick,

steel framing and profiled metal cladding, with tightly sealed junctions and limited structural complexity. Across these buildings, roof edges, soffits, fascias, flashing and cladding panels were generally intact and well-maintained, with no significant gaps, lifted materials, cracks or crevices capable of providing suitable bat access points. External lighting and ongoing operational disturbance further reduce suitability.

Internally, these buildings are typically open and well-lit with exposed steel frameworks, machinery and service infrastructure, and lack enclosed roof voids, cavities or sheltered niches suitable for roosting bats. No evidence of bats (e.g. droppings, staining, feeding remains or scratch marks) was recorded during the inspection.

However, Buildings B3, B4 and B5 exhibited features with potential to support roosting bats. These included deteriorated fascia boards, gaps at roof-wall junctions, lifted materials and dense ivy growth providing sheltered crevice features. While no evidence of bats was identified within these structures, the presence of Potential Roost Features (PRFs) results in moderate suitability for crevice-dwelling species.

3.6.5. Summary of Preliminary Roost Assessment

The Preliminary Roost Assessment recorded no evidence of roosting bats within or on the external surfaces of Buildings B1–B11. The majority of buildings (B1, B2 and B6–B11) were assessed as having negligible suitability for roosting bats in accordance with BCT (Collins, 2023) guidance, due to their modern or industrial construction, tightly sealed building fabric and absence of suitable crevice or void features.

Buildings B3, B4 and B5 were identified as supporting Potential Roost Features (PRFs), and were therefore assessed as having moderate suitability for crevice-roosting bats.

Potential Tree Roosts

A number of trees were inspected as part of the Preliminary Roost Assessment. The majority of scattered trees across the site were semi-mature with limited structural complexity and few features suitable for roosting bats. These trees were assessed as having negligible bat roost potential and are not considered further within this report.

However, several trees located along the woodland edge adjacent to the cesspit (T1–T3) were identified as supporting Potential Roost Features (PRFs). Features recorded included cavities, longitudinal splits, areas of decay, loose bark and deadwood, which provide potential opportunities for crevice- and cavity-roosting bats. No direct evidence of bats (e.g. droppings, staining, feeding remains or live bats) was recorded during the inspection.

The trees will be retained so do not require any further surveys despite presence of PRFs.

Potential Foraging and Commuting Habitat

The site provides locally suitable foraging and commuting habitat for bats, primarily along the southern and western boundaries where woodland and scrub form linear features connected to the wider Gwent Levels landscape. These habitats are closely associated with drainage ditches and wetland features

characteristic of the Levels, which are likely to support invertebrate prey and provide sheltered commuting routes. The woodland edge surrounding the cesspit and adjacent water features is considered the key resource, offering connectivity with off-site habitats and potential bat movement corridors.

The central areas of the site are dominated by buildings, hardstanding and operational infrastructure with artificial lighting and limited vegetation, and therefore offer low value for foraging bats.

Overall, the site is assessed as having site-level value for bat foraging and commuting, with the primary ecological resource being the boundary woodland and scrub habitats that connect to the surrounding ditch network and wetland landscape.

Impact Assessment of Proposed Development on Bats

The proposed development will involve demolition of buildings and localised vegetation clearance associated with removal of the existing cesspit. Since bats are unlikely to be roosting within the buildings, B3, B4 and B5, no direct impacts on bats by the development are anticipated. Precautionary measures for bats are detailed in Section 4.5.

Several trees (T1–T3) located within the woodland edge adjacent to the cesspit were identified as supporting PRFs these trees will not undergo further surveys and therefore must be retained during the works. Felling of these trees may result in the loss of potential roost sites and the death, injury or disturbance of bats if present.

The site provides locally suitable foraging and commuting habitat primarily along the woodland and scrub boundaries, which connect to the wider ditch and wetland network associated with the Gwent Levels. Removal of scrub may result in a localised reduction in connectivity; however, all woodland and boundary vegetation will be retained and will continue to function as a commuting corridor.

Indirect impacts may arise from construction disturbance, including noise, vibration and increased artificial lighting. If unmanaged, lighting could affect bats commuting along retained woodland edges and drainage features. These impacts can be minimised through sensitive lighting design and implementation of mitigation measures set out in Section 4.

With appropriate mitigation, the development is not anticipated to result in significant adverse effects on bat roosting, foraging or commuting habitat.

Dusk Emergence Survey

The results of the dusk emergence survey is summarised below and in Plan 9:

Table 7: Summary of Conditions During Dusk Emergence Survey – B3

	Survey 1	Survey 2
Date	23/06/26	21/07/26
Sunset Time	21:33	21:16
Start Time	21:18	21:01

Acer Ecology

Finish Time	23:03	22:46
Sunset Temperature (°C)	26	21
Rain	None	None
Wind (Beaufort scale)	2	2
Cloud Cover (Oktas)	0	1

Table 8: Summary of Dusk Emergence Surveys Results – B3

	Survey 1:	Survey 2:
Emergences	No bats emerged from or interacted closely with the building.	No bats emerged from or interacted closely with the building.
Important Commuting and Foraging Routes	Noctules were recorded foraging in the vegetation to the west of the building.	Noctules were recorded foraging in the vegetation to the west of the building and commuting west to east over the building.
Bat Activity	Moderate levels of noctule (<i>Nyctalus noctula</i>) were recorded, alongside low levels of unidentified <i>Myotis sp</i> ²¹ species.	Moderate levels of noctule were recorded, along with low levels of soprano pipistrelle (<i>Pipistrellus pygmaeus</i>).
Additional Observations	A rabbit was observed using the building at the eastern elevation.	A security light was present and illuminated during the survey. Blackbird activity was also observed to the north-west of the building. A rabbit was observed using the building at the northern elevation

Table 9: Summary of Conditions During Dusk Emergence Survey – B4

	Survey 1	Survey 2
Date	10/06/26	20/07/2026
Sunset Time	21:28	21:17
Start Time	21:13	21:02
Finish Time	22:58	22:47
Sunset Temperature (°C)	13	22
Rain	None	None
Wind (Beaufort scale)	1	1
Cloud Cover (Oktas)	2	0

Table 10: Summary of Dusk Emergence Surveys Results – B4

	Survey 1:	Survey 2:
Emergences	No bats emerged from or interacted closely with the building.	No bats emerged from or interacted closely with the building.
Important Commuting and Foraging Routes	Noctules, common pipistrelles and soprano pipistrelles were recorded	Noctules, common pipistrelles and soprano pipistrelles were recorded

²¹ Differentiation between *Myotis* species (especially when flying within confined spaces) is often problematic and not always possible. This is because of the use of frequency modulated calls (FM) which have highly overlapping features making it difficult to distinguish between species.

Acer Ecology

	foraging in the vegetation to the west of the building.	foraging in the vegetation to the west of the building.
Bat Activity	Moderate levels of common pipistrelle (<i>Pipistrellus pipistrellus</i>), noctule and soprano pipistrelle activity, with occasional and unidentified <i>Myotis</i> sp also recorded.	A low level of common, soprano and noctule activity was recorded during the survey.
Additional Observations	A security light was present and on for the duration of the survey.	A security light was present and on for the duration of the survey.

Table 11: Summary of Conditions During Dusk Emergence Survey – B5

	Survey 1	Survey 2
Date	22/06/26	22/07/26
Sunset Time	21:34	21:15
Start Time	21:19	21:00
Finish Time	23:04	22:45
Sunset Temperature (°C)	24	21
Rain	None	None
Wind (Beaufort scale)	1	2
Cloud Cover (Oktas)	2	6

Table 12: Summary of Dusk Emergence Surveys Results – B5

	Survey 1:	Survey 2:
Emergences	No bats emerged from or interacted closely with the building.	No bats emerged from or interacted closely with the building.
Important Commuting and Foraging Routes	Noctules were recorded commuting west to east at the north of the building, with common pipistrelles recorded foraging in the vegetation to the west and soprano pipistrelles recorded foraging to the north.	Common pipistrelles were recorded foraging in the vegetation to the west of the building and commuting over the building from west to east. Soprano pipistrelles were recorded foraging in the vegetation to the south.
Bat Activity	Moderate levels of common pipistrelle, soprano pipistrelle and noctule activity recorded.	Low levels of noctule and unidentified <i>Myotis</i> sp ²² species were recorded, alongside moderate levels of common pipistrelle and soprano pipistrelle calls.

3.6.6. Dormice

Desk Study Results

²² Differentiation between *Myotis* species (especially when flying within confined spaces) is often problematic and not always possible. This is because of the use of frequency modulated calls (FM) which have highly overlapping features making it difficult to distinguish between species.

Acer Ecology

SEWBRc returned 10 dormice records within 2 km of the site, with the majority located in a woodland adjacent to the South Wales Main Line railway, 1.4 km to the north of the site dating from 30/09/2018.

Field Survey Results and Evaluation of Ecological Value of Site for Dormice

No evidence of dormice was recorded on site.

Although areas of scrub and woodland are present on site and include limited dormouse food plants such as bramble and ivy, the species-poor nature of these habitats and their fragmented distribution reduce their suitability for supporting dormice. The woodland strip is largely dominated by ivy with limited shrub diversity and structural complexity, while scrub areas are primarily composed of dense bramble with occasional buddleia and birch saplings.

In accordance with guidance within the Hazel Dormouse Conservation Handbook (Wells et al., 2025), both woodland and scrub habitats are considered to provide low-quality habitat for dormice due to restricted plant diversity, limited structural layering and the industrial context of the site which results in fragmentation and disturbance.

While surrounding habitats associated with the wider Gwent Levels may provide improved connectivity, the habitats within the site itself are unlikely to support a resident dormouse population.

Table 13: Dormouse Habitat Quality Assessment

		Diversity		
		High	Medium	Low
Complexity	High	Excellent	Good	Fair
	Medium	Good	Good	Poor
	Low	Fair	Poor	Poor

Likelihood of Site to Support Dormice

There is low likelihood of dormouse presence within the site. Woodland and scrub habitats present along the site boundaries provide some structural features and limited dormouse food plants, primarily bramble and ivy; however, these habitats are species-poor, fragmented and occur within a heavily industrialised setting which reduces their functional suitability.

Although the site is connected to the wider landscape through boundary woodland and vegetation associated with the Gwent Levels, the absence of key dormouse food species such as hazel and honeysuckle, combined with limited shrub-layer development and structural complexity, further reduces suitability.

Records returned by SEWBrEC indicate dormouse presence within the wider landscape; however, these are located at a considerable distance from the site and are separated by areas of developed land and suboptimal habitat.

Habitats with limited potential for dormice on site comprise the boundary woodland strip and areas of bramble scrub, which may provide occasional transient habitat but are unlikely to support a resident population.

Overall, while the site exhibits some landscape connectivity, habitat quality and composition are insufficient to support dormice, and the likelihood of dormouse presence is therefore assessed as low.

Further Survey Requirement and Mitigation Statement

No dormouse surveys are recommended. Standard vegetation clearance precautions should be applied. Compensatory native planting in the new development will mitigate against the loss of potential dormouse habitat.

Impact Assessment of Proposed Development on Dormice

As the likelihood of dormice being present on site is anticipated to be low, no direct or indirect impacts on dormouse are anticipated. Dormouse surveys are therefore deemed disproportionate to the level of risk. Precautionary measures to avoid disturbances, injury and death of dormice during the development works and measures to take in the unlikely event of dormouse being unexpectedly encountered on site are outlined in Section 4.

3.6.7. Great Crested Newt

Desk Study Results

SEWBrEC returned eight GCN records within 1 km of the site, within the wetland habitat to the north, south and west of the site. The nearest record is 0.24 km to the north-west of the site, with records dating from 2004.

There are records of other amphibians, comprising two records of common frog (*Rana temporaria*), one record of common toad (*Bufo bufo*), and nine records of smooth newt (*Lissotriton vulgaris*).

Ponds Within 500 m of Site

There are four ponds within 500 m of the site (see Plan 4). These are located on private land and could not be accessed at the time of the survey.

Field Survey Results

No great crested newts (*Triturus cristatus*) or other amphibians were directly observed during the site survey.

Habitats within the development footprint are largely dominated by hardstanding, buildings and disturbed ground, which provide limited suitability for amphibians. However, a waterbody associated with seasonal water accumulation around the cesspit was recorded within woodland to the south-west of the site. While described as temporary in origin, field observations indicate persistent standing water and connectivity with adjacent drainage features characteristic of the Gwent Levels landscape.

The surrounding landscape is characterised by wetland habitats including drainage ditches, flooded woodland and marshy grassland, which are known to support amphibian assemblages and provide strong ecological connectivity. Desk study data returned multiple great crested newt records within 1 km of the site, confirming the species is present within the wider area.

Terrestrial habitats surrounding the waterbody, including woodland, scrub and areas of damp ground, may provide suitable sheltering and dispersal habitat for amphibians. Although the on-site waterbody may offer only marginal breeding suitability, its connectivity with the surrounding ditch network means opportunistic use cannot be ruled out.

In the absence of confirmed survey data for surrounding ponds and given the proximity of records and wetland connectivity, the site is considered to have precautionary site-level ecological value for great crested newt.

Aquatic Habitat

The results of the HSI assessment of the onsite waterbody are displayed in Table 14 below. A HSI assessment was not applied to the three offsite ponds as they were not accessible during the survey. The location of these waterbodies is shown in Plan 4.

In addition, a network of drainage ditches (reens) is present immediately adjacent to the site boundaries. These features are characteristic of the Gwent Levels landscape and provide ecological connectivity between aquatic habitats in the wider area. While HSI assessments are not typically applied to linear water features such as reens, they may still provide suitable habitat for amphibians, including great crested newt, and are therefore considered within the overall site evaluation.

Acer Ecology

Table 14: Waterbody HSI Scores

Pond Reference	Water Body
Distance and Direction from Site	Adjacent to west of site
SI1 Field location	0.5
SI2 Pond area	0.3
SI3 Pond drying	0.1
SI4 Water quality	0.67
SI5 Shade	0.8
SI6 Fowl	1
SI7 Fish	1
SI8 Ponds	1
SI9 Terrestrial habitat	1
SI10 Macrophytes	0.9
HSI SCORE:	0.61
Pond Suitability:	Average

The results of the Habitat Suitability Index indicate the waterbody has 'average' potential to support breeding GCN.



It must be noted that this assessment was made outside of optimal timing i.e., factor 5 advises that an assessment should be made during the period from May to the end of September, and factor 10 advises that an estimate should be made between March and the end of September.

Four ponds are located within 0.5 km of the site: Pond 1 and Pond 2 lie approximately 0.25 km and 0.22 km to the north-east respectively; Pond 3 is located approximately 0.20 km to the south-east; and Pond 4 is situated approximately 0.26 km to the south. However, due to access constraints, a HSI assessment or eDNA survey was not able to be undertaken for these ponds.

Terrestrial Habitats

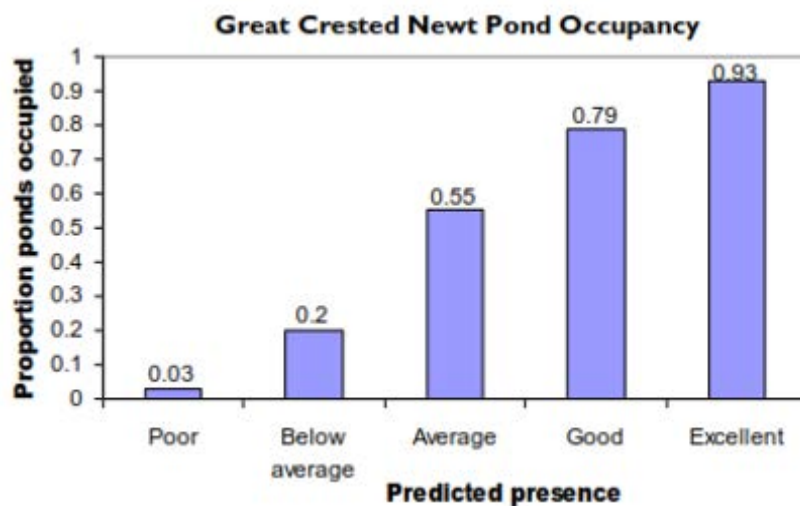
Acer Ecology

During the terrestrial phase of their lifecycle, great crested newt utilise woodland, scrub, grassland and damp ground for foraging, sheltering and hibernation. Within the proposed works area, terrestrial habitats are largely dominated by hardstanding and buildings, which provide negligible suitability.

However, woodland and scrub surrounding the cesspit, together with areas of damp ground associated with the adjacent waterbody, provide suitable refuge and dispersal habitat. The site lies within the wider Gwent Levels wetland landscape, characterised by drainage ditches (reens), marshy grassland and flooded woodland, which provide strong ecological connectivity.

Overall, the terrestrial habitat within the immediate works area is considered to provide good quality habitat for GCN due to the presence of woodland, scrub and damp ground, although its extent is limited and fragmented by industrial infrastructure.

The waterbody on site scored 'average' in the HSI assessment. This indicates an average likelihood of GCN occupancy, as illustrated in the graph below.



Field Survey and Laboratory Analysis

The eDNA laboratory assessment returned a negative GCN result from both the waterbodies indicating that they are likely to be absent from all of the surveyed waterbodies. DNA extract was also analysed for PCR inhibitors and degradation of the sample to ensure a conclusive result. No such inhibitors were identified, and the sample data was analysed with a high level of confidence.

Impact Assessment of Proposed Development on Great Crested Newt

The waterbody and reens adjacent to the site that will be subject to disturbance in association with removal of the cesspit. Both the waterbodies returned negative eDNA results meaning GCN are likely absent from the waterbody associated with the cesspit and the adjacent reen. However, the surrounding woodland, scrub and damp ground provide suitable terrestrial habitat for sheltering and dispersing individuals. As

such, terrestrial-phase great crested newts could potentially be impacted by vegetation clearance and ground disturbance associated with the proposed works. Whilst it is unlikely that there will be GCN present within the waterbodies or surrounding areas precautionary measures for GCN as detailed in section 4.2 should be followed.

3.6.8. Otter

Desk Study Results

SEWBRc returned eight otter records within 2 km of the site. The nearest record was made in 2006, approximately 0.85 km south-east of the site.

Field Survey Results and Evaluation of Ecological Value of Site for Otters

No direct evidence of otter, such as spraints, footprints, slides, holts or couches, was recorded during the field survey.

The drainage ditches and wet woodland habitats surrounding the site provide suitable aquatic and riparian habitat with vegetated margins and hydrological connectivity to the wider Gwent Levels drainage network. These features may offer occasional foraging and commuting opportunities for otters moving through the wider landscape.

However, the development site itself comprises predominantly industrial buildings, hardstanding, artificial surfaces and fragmented vegetation, which are subject to regular disturbance and are largely enclosed by fencing and operational infrastructure. These conditions reduce suitability for resting, sheltering or denning otters. No features with potential to support natal dens, holts or couches were identified within the site.

Overall, while the surrounding ditch network may provide limited commuting and foraging opportunities, the site itself is assessed as having low ecological value for otters and is unlikely to support resting or breeding individuals.

Impact Assessment of Proposed Development on Otter

Records confirm the presence of otters within the wider landscape, and the drainage ditch network associated with the Gwent Levels adjacent to the site may provide occasional foraging and commuting opportunities. While no evidence of otter activity was recorded during the survey, their presence within nearby wetland habitats cannot be ruled out completely.

The proposed development is largely confined to previously developed land and will not involve direct works to drainage ditches, their banks or associated riparian vegetation. As such, direct impacts on otter habitat are unlikely.

Removal of the cesspit and associated vegetation clearance within adjacent woodland may result in temporary disturbance; however, no suitable features for holts, couches or natal dens were identified within the works area. Temporary disturbance associated with construction, including noise and vibration, is

considered unlikely to significantly affect otters using nearby ditch habitats due to the limited spatial extent of works and existing industrial disturbance.

Artificial lighting associated with construction and operation has the potential to indirectly affect commuting otters by increasing disturbance along adjacent drainage features. A sensitive lighting strategy will therefore be implemented to minimise light spill and maintain dark corridors.

With the implementation of precautionary measures outlined in Section 4, the proposed development is not anticipated to result in significant adverse effects on otters.

3.6.9. Water Vole

Desk Study Results

SEWBRc returned 49 water vole records within 2 km of the site. The nearest record was made in 2004, approximately 0.4 km south of the site. 37 records were recorded between 2015 and 2017, approximately 1.2 km south of the site.

Field Study

The following table details the field signs identified during the site visit. The location of each field sign is displayed on Plan 7, which should be read in conjunction with this section of the report:

Table 16: Survey 1 Field Survey Results

Section	Field Sign	Location	Details
Reen (South)	Feeding station	51.568335 , - 2.921544	Dense vegetation cover
Reen (South)	Feeding station	51.568308 , - 2.921544	Sign was old indicated by dry brown colour of vegetation

Photos Showing Field Signs

Photo 49: Feeding sign from the southern side of the reen

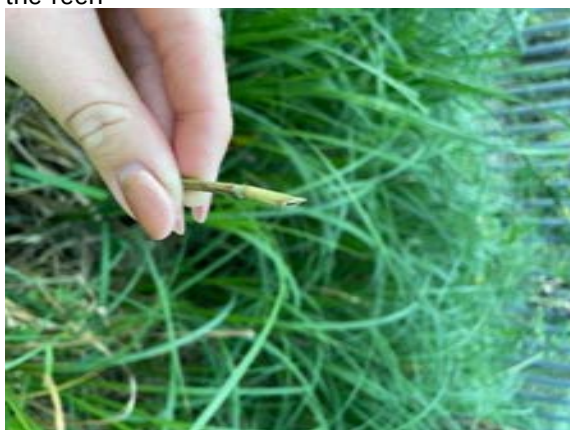


Photo 50: Old feeding sign found on the southern side of the reen



Acer Ecology

Table 17: Survey 2 Field Survey Results

Section	Field Sign	Location	Details
Reen (southern)	Feeding station	51.568308 , - 2.921588	Dense vegetation cover
Reen (southern)	Feeding station	51.568254 , - 2.921458	Dense vegetation cover

Photos Showing Field Signs

Photo 51: Feeding pile from the southern side of the reen



Photo 52: Feeding sign from the southern side of the reen



No signs of water vole presence including sightings, latrines, runs, burrows footprints and feeding stations were observed on the western reen and cesspit adjacent waterbodies during both the surveys.

Habitat Classifications

The following table details the aquatic and riparian habitats throughout the three areas of the survey area.

Table 18: Habitat Classifications

Section	Reen (south)	Reen (west)	Cesspit
Description	Drainage reen with historic inputs from the works within the tarmac plant	Drainage reen with historic inputs from the works within the tarmac plant	Seasonally wet area adjacent to the cesspit
Habitat	Slow running stream approximately 2 m wide with variable depth and seasonal drying. The southern reen has densely vegetated edges on both sides	Slow running stream approximately 2 m wide with variable depth and seasonal drying. The western reen is sparsely vegetated in comparison to the southern reen	Wetland area with seasonal drying within an area of broadleaved woodland located to the north east of the western reen.
Shore/ Bank	Bank with a gentle slope into waterbody comprising sandy soils.	Bank with a gentle slope into waterbody comprising sandy soils	A seasonally wet area with no defined banks

Acer Ecology

Bordering Land-Use	The land use of the areas to the north of the waterbodies is a disused industrial tarmac production plant. The reens were previously used for drainage of run off from the plant	The land use of the areas to the east of the waterbodies is a disused industrial tarmac production plant. The reens were previously used for drainage of run off from the plant	The cesspit which is planned for removal is located adjacent to this waterbody and its removal has potential to impact the waterbody and species within this habitat.
Vegetation Cover	Dominant reeds and sedges with occasional bankside trees and bushes on the northern bank of the southern reen and occasional scrub on the southern bank. The northern bank had a covering of dead vegetation	Sparse areas of reeds along the eastern bank	Dominant and complete reed cover with occasional broad-leaved trees.
Disturbance	The reens are inaccessible and are not subject to disturbance.	The reens are inaccessible and are not subject to disturbance.	The cesspit waterbody is inaccessible and not subject to disturbance.
Bank Profile	Shallow and gentle sloping on both the northern and southern banks	Shallow and gentle sloping	Relatively flat area with no defined bank profile
waterbodies Characteristics	Shallow, slow flowing with seasonal variation to the water level. Dry during the second survey	Shallow, slow flowing with seasonal variation to the water level. Dry during the second survey	The cesspit waterbody was dry during both the surveys and has no clear boundary or definitive bank.

Photos Showing Habitats

Photo 53: The southern reen during the first survey

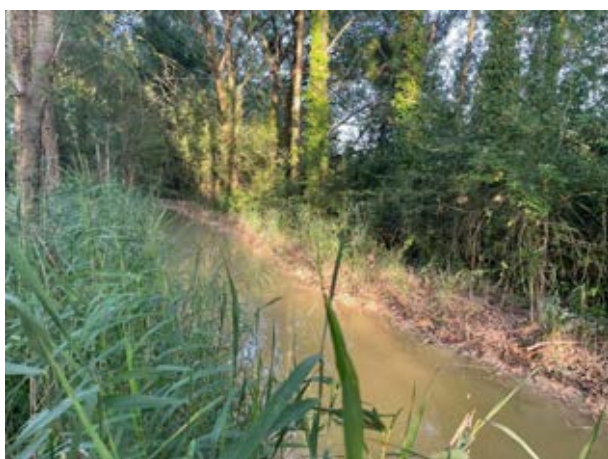


Photo 54: The southern reen during the second survey

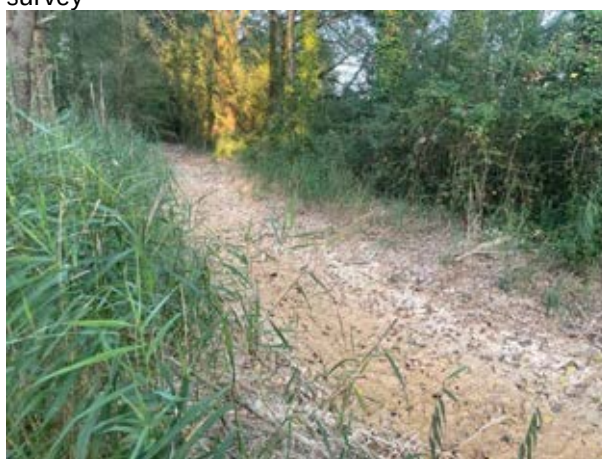


Photo 56: The western reen during the first survey

Photo 57: The dried cesspit waterbody

Acer Ecology



Survey Summary

The following table summarises the field signs recorded on site, ranked in order of usefulness for determining population presence and distribution, and for density estimates by calculating the number of female territories, or 'breeding units':

Table 19: Summary of field signs recorded during both surveys

Section	Southern Reen	Western Reen	Cesspit waterbodies
Evidence of Water Vole?	Yes	No	No
Latrines	N/A	N/A	N/ A
Feeding Stations	Four	N/A	N/ A
Tunnel Entrances	N/A	N/A	N/ A
Runways	Present	N/A	N/ A
Live Sightings	N/A	N/A	N/ A
Faeces	N/A	N/A	N/ A
Footprints ²³	N/A	N/A	N/ A
Habitat Suitability	Suitable	Sub-optimal	Sub-optimal

No latrines were recorded at any section of the waterbodies therefore it is not possible to make a population estimate.

The presence of feeding signs indicates that at least a small population of water voles is present along the southern reen, with no signs of water vole presence along the western reen and cesspit waterbody. The lack of latrines may indicate that there is not an established breeding population of water voles present along this waterbody. Breeding female home ranges vary from 50m to 150m, with male territories overlapping (Dean, 2016).

The waterbodies are ecologically connected to the survey area via a network of reens providing connectivity to the River Usk and Newport Wetlands. Aquatic and riparian habitats across the entire survey area are moderately suitable for supporting water voles. Though the habitat assemblages themselves are considered to be optimal, the reens themselves are subject to input primarily through surface water run off and therefore are likely subject to pollution.

²³ Distinct aggregations.

Impact Assessment of Proposed Development on Water Voles

The waterbodies are connected to the wider Aquatic habitats including Newport wetlands and Gwent Levels SSSI where water voles are known to be present. This combined with the evidence of feeding signs and runs recorded during both surveys suggests it is highly likely water voles are present along at least sections of the reen. The reen is located approximately 25 m from the cesspit water body and has suitable water vole habitat therefore it is highly likely that during the works there may be water voles present in the area of the cesspit water body also.

Works associated with vegetation clearance and ground disturbance near the cesspit and woodland edge may result in disturbance to adjacent habitats and carry a risk of direct impacts. These impacts include; the permanent destruction of suitable water vole habitat, the collapsing of burrows and disturbance, harm or mortality of water voles. Indirect impacts include sedimentation or pollution entering nearby drainage features.

Additional indirect impacts may arise from increased disturbance and artificial lighting affecting ditch margins, although these effects are expected to be localised and temporary.

Licensing Requirements For Water Voles

As the removal of the cesspit is highly likely to impact suitable habitat that may be in use by water voles at the time of the works and therefore risk disturbance, injury or mortality a Natural Resources Wales water vole mitigation licence will be required.

3.6.10. Badger

Desk Study Results

SEWBRc did not return any records of badgers within 1 km of the site.

Field Survey Results and Evaluation of Ecological Value of Site for Badger

No evidence of badger activity, including setts, latrines, paths, foraging signs or footprints, was recorded during the site survey.

The site is predominantly composed of buildings, hardstanding and disturbed habitats which provide limited suitability for sett construction. Woodland and scrub along the southern and western boundaries offer some potential for sporadic foraging; however, these areas are fragmented and subject to disturbance associated with the surrounding industrial land use. No features suitable for sett establishment, such as well-drained banks or undisturbed woodland with extensive earthworks, were identified.

Connectivity to the wider landscape is present via boundary vegetation and adjacent woodland; however, the site is partially enclosed by fencing and infrastructure which may restrict access for badgers and reduce the likelihood of regular use.

Overall, while occasional or opportunistic foraging by badgers cannot be ruled out, the site is assessed as having low ecological value for badgers and is unlikely to support setts.

Impact Assessment of Proposed Development on Badger

The presence of badgers foraging or commuting through the site cannot be ruled out completely due to the presence of boundary woodland and scrub which provide limited foraging opportunities and connectivity with the wider landscape. However, no evidence of badger activity or suitable sett features was recorded during the survey, and the predominance of buildings, hardstanding and disturbance reduces the likelihood of regular site use.

The proposed development will involve demolition of buildings and localised vegetation clearance associated with removal of the cesspit. These works may result in minor temporary disturbance to potential foraging habitat; however, no loss of sett habitat is anticipated.

With the implementation of precautionary measures outlined in Section 4, the development is not expected to result in significant adverse effects on badgers.

3.6.11. Reptiles

Desk Study Results

SEWBRc returned a single reptile record within 1 km of the site, comprising one grass snake.

Field Survey Results and Evaluation of Ecological Value of Site for Reptiles

No direct evidence of reptiles (e.g. sightings, shed skins or droppings) was recorded during the survey.

The site contains areas of woodland edge, scrub and damp ground adjacent to the cesspit which provide suitable refuge, basking and foraging opportunities for reptiles. These habitats form a mosaic with adjacent wetland features and drainage ditches associated with the Gwent Levels, which may support reptiles within the wider landscape.

The remainder of the site is dominated by buildings, hardstanding and disturbed habitats that offer negligible suitability for reptiles. No dedicated hibernacula such as log piles, rubble heaps or undisturbed south-facing banks were identified within the works area.

While the presence of reptiles on site is considered unlikely at high densities, occasional use by widespread species such as grass snake cannot be ruled out given the proximity of wetland habitats and connectivity with boundary vegetation.

Overall, the site is assessed as having low ecological value for reptiles, with the woodland and scrub surrounding the cesspit representing the key areas of potential habitat.

Impact Assessment and Precautionary Measures

The likelihood of reptiles being present on site is considered to be negligible to low and no adverse impacts are subsequently anticipated. They are therefore not mentioned further in this report.

3.6.12. Hedgehog

Desk Study Results

SEWBRc did not return any records of hedgehog within 1 km of the site.

Field Survey Results and Evaluation of Ecological Value of Site for Hedgehog

No direct evidence of hedgehog, such as sightings, footprints or nests, was recorded during the field survey.

The site is predominantly composed of buildings, hardstanding and disturbed habitats which provide limited suitability for hedgehogs. Woodland and scrub along the site boundaries offer some potential for foraging and shelter; however, these areas are fragmented and subject to disturbance associated with the surrounding industrial land use. Connectivity with the wider landscape is also partially restricted by fencing and infrastructure, reducing the likelihood of regular use by hedgehogs.

Overall, while occasional transient use cannot be ruled out, the site is assessed as having low ecological value for hedgehog and is unlikely to support resident individuals.

Impact Assessment of Proposed Development on Hedgehog

The presence of hedgehogs on site cannot be ruled out completely due to the presence of boundary vegetation which may provide limited foraging opportunities. However, the predominance of hardstanding and disturbed habitats reduces overall suitability.

Precautionary measures will be implemented during vegetation clearance to avoid harm to any hedgehogs that may be present, as outlined in Section 4. With these measures in place, the development is not anticipated to result in significant adverse effects on hedgehogs.

3.6.13. Other Mammals

Desk Study Results

SEWBRc returned a single record of other mammals within 1 km of the site, comprising one stoat (*Mustella erminea*).

Field Survey Results and Evaluation of Ecological Value of Site for Other Mammals

Evidence of mammal activity was recorded during the field survey in the form of rabbit burrows and droppings within areas of sandy substrate. No additional signs of other terrestrial mammals, such as tracks, feeding remains or resting places, were observed.

The site is predominantly composed of buildings, hardstanding and disturbed habitats which provide limited suitability for other mammals. Woodland and scrub along the site boundaries offer some minor foraging and shelter opportunities; however, these habitats are fragmented and subject to disturbance associated

with the surrounding industrial land use. Connectivity with the wider landscape is also partially restricted by fencing and infrastructure, reducing the likelihood of regular mammal use.

Overall, while occasional transient use by widespread species such as stoat and small mammals cannot be ruled out, the site is assessed as having low ecological value for other terrestrial mammals.

Impact Assessment of Proposed Development on Other Mammals

The likelihood of other mammals being present on site is considered to be very low and no adverse impacts are subsequently anticipated, provided precautionary measures outlined in Section 4 are implemented during vegetation clearance and groundworks.

3.6.14. Invertebrates

Desk Study Results

SEWBRc returned 46 records of notable invertebrates within 1 km of the site, comprising:

31 priority invertebrate species, namely: grey dagger (*Acronicta psi*), knot grass (*Acronicta rumicis*), garden tiger (*Arctia caja*), centre-barred sallow (*Atethmia centrugo*), brown-banded carder bee (*Bombus humilis*), shrill carder bee (*Bombus sylvarum*), minor shoulder-knot (*Brachylomia viminalis*), mottled rustic (*Caradrina morpheus*), broom moth (*Ceramica pis*), latticed heath (*Chiasmia clathrata*), small heath (*Coenonympha pamphilus*), small square-spot (*Diarsia rubi*), small phoenix (*Ecliptopera silaceata*), dusky thorn (*Ennomos fuscantaria*), small emerald (*Hemistola chrysoprasaria*), ghost moth (*Hepialus humuli*), rustic (*Hoplodrina blanda*), rosy rustic (*Hydraecia micacea*), shoulder-striped wainscot (*Leucania comma*), brindled beauty (*Lycia hirtaria*), lackey (*Malacosoma neustria*), dot moth (*Melanchra persicariae*), oblique carpet (*Orthonama vittata*), powdered quaker (*Orthosia gracilis*), large wainscot (*Rhizedra lutosa*), white ermine (*Spilosoma lubricipeda*), buff ermine (*Spilosoma lutea*), blood-vein (*Timandra comae*), cinnabar (*Tyria jacobaeae*), oak hook-tip (*Watsonalla binaria*) and dark-barred twin-spot carpet (*Xanthorhoe ferrugata*);

Six invertebrates listed as species of conservation concern, namely: bulrush veneer (*Calamotropha paludella*), pied grey (*Eudonia delunella*), adonis' ladybird (*Hippodamia variegata*), black colonel (*Odontomyia tigrina*), *Peltodytes caesus* and long-horned soldier (*Vanoyia tenuicornis*);

Nine invertebrates listed as locally important species, namely: *Berosus affinis*, hairy dragonfly (*Brachytron pratense*), banded demoiselle (*Calopteryx splendens*), beautiful demoiselle (*Calopteryx virgo*), *Helochares lividus*, scarce blue-tailed damselfly (*Ischnura pumilio*), black-tailed skimmer (*Orthetrum cancellatum*), white-legged damselfly (*Platycnemis pennipes*) and ruddy darter (*Sympetrum sanguineum*).

Field Survey Results

No incidental observations of invertebrates were recorded during the survey.

Evaluation of Ecological Value of Site for Invertebrates

Acer Ecology

The habitats within the site comprise predominantly hardstanding, buildings and disturbed ground with small areas of modified grassland, scrub and woodland edge. These habitats provide limited structural diversity and are generally subject to disturbance, reducing their suitability for notable invertebrate species.

While woodland edge and scrub habitats may support common invertebrates associated with bramble, ivy and damp ground, no uncommon host plants or specialist habitat features such as species-rich grassland, veteran trees or extensive deadwood were identified.

Overall, the site is considered to be of low ecological value for invertebrates, with boundary vegetation providing the main areas of limited habitat interest.

Impact Assessment of Proposed Development on Invertebrates

The invertebrates using the site for habitat are unlikely to solely rely on the site for their continued survival. While some habitat loss will occur across the site, this can be more than offset by providing a range of new habitats within the development that will benefit invertebrates. Plans for widespread planting across the site have potential to greatly increase the floristic diversity of the site, therefore introducing more opportunity for a wider range of invertebrates to utilise the site post-development.

No targeted invertebrate survey is recommended.

4. Required Actions and Conclusions

The following recommendations are likely to be secured through planning conditions. They have been developed based on the proposals available at the time of writing. However, they may be subject to change upon receipt of the final demolition plans. The implementation of these recommendations will ensure compliance with the Planning Policy Wales version 12 (Welsh Government, 2024)²⁴, TAN 5 *Nature Conservation and Planning* (2009), Section 6 and 7 of the Environment Wales Act, 2016, the Conservation of Habitats and Species Regulations 2017, (which has been updated by the Conservation of Habitats and Species (Amendment) (EU Exit) [‘CHSAEU’] Regulations 2019), and the Newport City Council Local Development Plan.

The recommendations aim to avoid or minimise adverse impacts on the environment and protected species, mitigate and compensate for losses where damage is unavoidable and promote opportunities to enhance biodiversity.

4.1.1. Pre-Commencement Otter Survey

Prior to the commencement of works, a targeted inspection of adjacent drainage ditches, wet woodland margins and the waterbody surrounding the cesspit should be undertaken by a suitably qualified ecologist to confirm the continued absence of otter resting places (including holts and couches) and field signs (e.g. spraints, footprints, slides, couches, holts/resting places) within and immediately adjacent to the works area.

If evidence of otter activity is recorded, appropriate mitigation, timing restrictions and protection measures will be implemented following consultation with Natural Resources Wales.

4.1.2. Demolition Environmental Management Plan (DEMP)

Given the proximity of the site to the Gwent Levels (Nash and Goldcliff) SSSI and the presence of adjacent wetland habitats with confirmed water vole presence, a DEMP will be required to ensure works are undertaken in an environmentally responsible manner. The DEMP will outline site-specific measures necessary to protect nearby designated sites, drainage ditches, wet woodland habitats and protected species during demolition and cesspit removal works.

It will detail how potential risks such as pollution, sedimentation, dust, debris, noise, vibration and artificial lighting will be managed. The document will also include procedures for waste handling, spill response, surface water protection, biosecurity, and ecological supervision where required.

The DEMP should be prepared and agreed prior to commencement of works.

4.2. Precautionary Measures

²⁴ Planning authorities must seek to maintain and enhance biodiversity in the exercise of their functions ... and in so doing promote the resilience of ecosystems. Development should not cause any significant loss of habitats or populations of species, locally or nationally and must provide a net benefit for biodiversity.

4.2.1. Timing of Vegetation Clearance for Birds

Vegetation clearance should be undertaken outside the main bird nesting season (March to August inclusive). Where this is not possible, a pre-works nesting bird inspection should be carried out by a qualified ecologist within 24 hours prior to works. If any active nests are identified, an exclusion buffer of 5-10 m should be established until chicks have fledged and the nest is no longer in use.

4.2.2. Protection of Nesting Birds

Building B10 is currently used by feral pigeons for roosting and occasional nesting. Demolition works have the potential to disturb active nests, eggs or dependent young.

To avoid committing an offence under the Wildlife and Countryside Act 1981 (as amended), demolition of Building B10 should, where feasible, be undertaken outside of the main bird nesting season (March–August inclusive). Although feral pigeons are capable of breeding throughout the year, nesting activity is typically reduced during the winter months.

A pre-demolition nesting bird inspection of the building shall be undertaken by a suitably qualified ecologist immediately prior to works commencing. If active nests are identified, works affecting those nests should be delayed until the nest is no longer active, unless there is a clearly evidenced, site-specific need to rely on NRW General Licence 002. Any reliance on GL002 must be justified in relation to preserving public health, public safety or preventing the spread of disease, and only where no other satisfactory solution is available. The basis for that decision should be documented, and all licence terms and conditions must be met.

If nests of species other than feral pigeon are identified, works in the affected area must cease and further ecological advice sought.

All site personnel should be made aware of nesting bird legislation through a toolbox talk prior to commencement of works.

4.2.3. Precautionary Measures for Otters and Small Mammals

No direct mitigation is likely to be required; however, the following precautionary measures should be implemented in order to minimise disturbance and potential impacts:

There will be no night-time working;

All materials will be stored within a secure otter-proof fenced compound;

Any excavations will be covered overnight or, where this is not possible, a means of escape will be provided (e.g. a wide plank at no greater angle than 45°) to allow any badgers, water vole, hedgehogs or other small mammals to escape;

An appropriately experienced ecologist will be “on call” for the duration of the works. In the unlikely event that otters or any other protected mammals are discovered on site, all relevant works must cease

immediately, and the ecologist will provide further advice on whether additional mitigation or a licence is required before works can continue; and

Vegetation removal should follow a precautionary method of working, ensuring that dense vegetation is cut in stages to allow any hedgehogs to move away naturally. Checks of bramble patches, grass tussocks and other potential refuges should be carried out prior to clearance, and any hedgehogs encountered should be moved to a safe area of suitable habitat outside the working footprint.

4.2.4. Precautionary Measures for Bats

No evidence of any use of the buildings by roosting bats was recorded and it is therefore highly unlikely that bats or their roosts will be affected by the works. No precautionary timing conditions on works are required. However, it is not possible to rule out bat use entirely, and there is also a risk of an offence being committed if bats are present. The following recommendations are made to minimise risks to bats:

It will be clearly understood, and contractors made aware, that in the event of any bats being found the contractor must halt works (if bats are encountered, the bat will be carefully covered over again). Appropriate advice will be obtained from a suitably qualified bat consultant, Natural Resources Wales and, if necessary, a bat development licence obtained before work can resume;

Contractors will check for the possible presence of bats on the undersides of roofing tiles, ridge tiles, fascias, soffits and bargeboards etc. as they are lifted off. This is especially important at the outset of the works, since once the works have started, the disturbance is likely to drive away any bats which are present voluntarily; and

The services of an appropriately qualified and licensed ecological consultant will be available on an 'on-call' basis at all stages of the works to deal with any unexpected encounters with bats or nesting birds. Contact details of such will be held on site. Acer Ecology Ltd. could be retained to provide this support.

4.2.5. Precautionary Measures for GCN

In order to ensure that no great crested newts are killed during the removal of the site woodlands, a two-stage approach should be implemented. vegetation scheduled for clearance should initially be coppiced during the early autumn (ie September to October), using hand tools to minimise ground disturbance. The subsequent grubbing-out of stumps etc should not be undertaken until late April/ early May, so that any great crested newts which may be present will have emerged from hibernation and are likely to have migrated into breeding ponds. This phased approach is aimed at avoiding disruptive works when these animals are hibernating, and are less able to rouse themselves and escape the area of works.

4.3. Mitigation Measures

4.3.1. Species Deterrence Measures

Mitigation to prevent harm to reptiles, amphibians, and small mammals during any vegetation clearance works that may be required to provide machine access to the waterbody can be achieved through species-deterrence measures, whereby individuals are encouraged to move into retained habitats in advance of site clearance. It is assumed that only a small population of the aforementioned animals are present on site, and the surrounding retained habitat will be suitable to support them therefore this approach is considered proportional and appropriate.

Vegetation subject to removal should be strimmed or brush cut to a height of approximately 300 mm to make the area less desirable for reptiles, amphibians, and small mammals. Arisings should be removed immediately from site. This will be left for at least 48 hours and then cut down to near ground level and left for another 48 hours prior to works commencing. Mechanical clearance methods (e.g. gang-mowing, flail-cutting etc.) will not be used.

4.3.2. Water Vole Habitat Buffer

A 15 m buffer from the edge of suitable water vole habitat and the site of the works will be enforced. This will be demarcated with Heras fencing. Any works within the suitable habitat and 15 m buffer area, as represented on plan 8, will require an NRW Water Vole licence to take place as detailed in section 4.4.

The implementation of the buffer must be supervised and approved by a suitably qualified ecologist. Once the buffer is in place works outside of this area may proceed.

4.4. Licensing

An NRW Protected Species mitigation licence with respect to bats and GCN will not be required. However, if at any point during the works any of these species are found on site the works will need to cease and the appropriate licence obtained.

An NRW Protected Species mitigation licence with respect to water voles will be required to proceed with works that will impact suitable water vole habitat including the removal of the cesspit, suitable habitat is shown in plan 8.

4.5. Longevity of Report

If the proposed works do not begin within eighteen months of the date of this report, an update survey should be undertaken in accordance with guidance from NRW²⁵, CIEEM (2019) and BS 42020:2013²⁶, to confirm that baseline conditions remain valid.

4.6. Conclusions

²⁵ As set out in Point 5 of the NRW *Bat Surveys - Frequently Asked Questions* and Point 4 of the guidance included within the NRW European Protected Species Development Application Form.

²⁶ As set out in Section 6.2.1, point 7 which states that ecological information should not normally be more than two/three years old, or as stipulated in good practice guidance).

Acer Ecology

There is a requirement for water vole mitigation licensing as per the results of the further surveys. Without obtaining a mitigation licence, to proceed with works within the suitable habitat and 15 m buffer area shown in plan 8, there would likely be adverse impacts to water voles. Works including demolition outside of the suitable water vole habitat and 15 m buffer may proceed. Provided that the measures detailed in Section 4 are implemented and the appropriate licence obtained, the impacts of the development to protected habitats and species will be controlled and minimised.

The precautionary measures outlined above will be required to minimise any residual risk to protected species such as reptiles, otters and small mammals that may occasionally be present. Opportunity for enhancement measures to be implemented is limited due to a change in the site's ownership.

5. References and Bibliography

Amphibian & Reptile Group (2010) *Great Crested Newt Habitat Suitability Index*. ARG UK Advice Note 5. ARG.

Andrews, H. (2013). *Bat Tree Habitat Key*. AEcol, Bridgwater

Barn Owl Trust (2012) *Barn Owl Habitat Requirements in Pastoral Landscapes*.
<http://www.barnowltrust.org.uk/infopage.html?Id=200>

Biggs J, Ewald N, Valentini A, Gaboriaud C, Griffiths RA, Foster J, Wilkinson J, Arnett A, Williams P and Dunn F. (2014) *Analytical and methodological development for improved surveillance of the Great Crested Newt. Defra Project WC1067*. Freshwater Habitats Trust: Oxford.
<https://sciencesearch.defra.gov.uk/ProjectDetails?ProjectID=18650>

Biggs J, Ewald N, Valentini A, Gaboriaud C, Griffiths RA, Foster J, Wilkinson J, Arnett A, Williams P and Dunn F. (2014) *Analytical and methodological development for improved surveillance of the Great Crested Newt. Appendix 5. Technical advice note for field and laboratory sampling of great crested newt (Triturus cristatus) environmental DNA*. Freshwater Habitats Trust, Oxford.
<https://adas.co.uk/wp-content/uploads/2021/01/Natural-England-Technical-Advice-Note-2.pdf>

Biodiversity Reporting & Information Group (2007) *Report on the Habitats & Species Review: A Report to the UK Biodiversity Partnership*. Joint Nature Conservation Committee, Peterborough.

Bright, P., Morris, P.A. & Mitchell-Jones, T. (2006) *The Dormouse Conservation Handbook*. Second Edition. English Nature. Peterborough.

British Standard Institute (2015) *BS 8596:2015 Surveying for Bats in Trees and Woodland*.

British Standard Institute (2023) *Biodiversity. Code of Practice for Planning and Development*.

Bullion, S., Wolton, R. & White, I. (2025) *Hazel Dormouse Conservation Handbook*. Mammal Society.

Chartered Institute of Ecology & Environmental Management (2017) *Guidelines for Preliminary Ecological Appraisal*. 2nd edition. CIEEM, Winchester. <https://bit.ly/2k0mhOH>

Chartered Institute of Ecology & Environmental Management (2024) *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine. Version 1.3* CIEEM. Available online at: <https://cieem.net/wp-content/uploads/2018/08/EcIA-Guidelines-v1.3-Sept-2024.pdf>

Chartered Institute of Ecology & Environmental Management (2019) *On the Lifespan of Ecological Reports & Surveys*. CIEEM. Available online at: <https://cieem.net/wp-content/uploads/2019/04/Advice-Note.pdf>

Collins, J. (ed) (2023) *Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th edn)*. The Bat Conservation Trust, London. Available online [here](#)

Dean, M. (2021). *Water Vole Field Signs and Habitat Assessment: A Practical Guide to Water Vole Surveys*. Exeter: Pelagic Publishing

Dean, M., Strachan, R., Gow, D., Andrews, R., Mathews, F. and Chanin, P. (2016). *The water vole mitigation handbook* (pp. 1-64). Mammal Society.

Edgar, P., Foster, J. & Baker, J. (2011) *Reptile Habitat Management Handbook*. Amphibian Reptile Conservation and Natural England. Peterborough.

English Nature (2001) *Great Crested Newt Mitigation Guidelines*, Peterborough.

Gent, T. & Gibson, S. (2003) *Herpetofauna Workers Manual*. Joint Nature Conservation Committee, Peterborough.

Harris, S., Cresswell, P. & Jefferies, D.J. (1988) *Surveying Badgers*. Mammal Society Occasional Publication 9.

Jehle, R., Thiesmeier, B. & Foster, J. (2011) *The Crested Newt: A Dwindling Pond Dweller*. Kock, Bielefeld, Germany.

Kirby, J., Drewitt, A., Chivers, L. & Saunders, R. (2000) *Key Habitat Attributes for Birds and Bird Assemblages in England-Pt 1 (ENRR359)*. English Nature Research Report. Peterborough.

Langton, T.E.S., Beckett, C.L. & Foster, J.P. (2001) *Great Crested Newt Conservation Handbook*. Froglife, Halesworth.

Morris, P. (2004) *Dormice*. Whittet Books.

Natural Resources Wales (2021) *Terrestrial and freshwater Resilient Ecological Networks: a guide for practitioners in Wales*. Available online at: <https://cdn.cyfoethnaturiol.cymru/media/693356/resilient-ecological-networks-practitioner-guide.pdf?mode=pad&rnd=132612537900000000>

Oldham, R.S., Keeble, J., Swan, M.J.S. & Jeffcote, M. (2000) *Evaluating the suitability of habitat for the Great Crested Newt (Triturus cristatus)*. Herpetological Journal 10 (4), 143-155

People's Trust for Endangered Species (2019) *The State of Britain's Dormice 2019*.

Peoples Trust for Endangered Species and British Hedgehog Preservation Society (2023) *Hedgehogs and Development*. Hedgehog Street. Available online at: [PTES-BHPS-Developers-leaflet-Sept-23.pdf](https://www.ptes-bhps.org.uk/PTES-BHPS-Developers-leaflet-Sept-23.pdf)

South Wales Wildlife Sites Partnership (2004) *Guidelines for the Selection of Wildlife Sites in South Wales*. Gwent Wildlife Trust. Available online at: <http://bit.ly/2gx1SBo>

UKHab Ltd (2023) UK Habitat Classification Version 2.0. Available online at <https://www.ukhab.org>.

Wales Biodiversity Partnership (WBP 2008) *Wildlife Sites Guidance Wales: A Guide to Develop Local Wildlife Systems in Wales*. Wales Biodiversity Partnership/Welsh Assembly Government. Available online at: <https://www.biodiversitywales.org.uk/File/36/en-GB>

Acer Ecology

Wales Biodiversity Partnership (2016) *Environment Wales Act 2016. Section 7 Habitats List*. Wales Biodiversity Partnership/Welsh Assembly Government. Available online at: <http://bit.ly/2hFuEvO>

Wales Biodiversity Partnership (2016) *Environment Wales Act 2016. Section 7: Interim List of Living Organisms & Habitats of Principal Importance for the Purpose of Maintaining and Enhancing Biodiversity in Wales*. Wales Biodiversity Partnership/Welsh Government. Available online at: <http://bit.ly/2hm4CRJ>

Wells, D., Channin, P. & Gubert, L., *Hazel Dormouse Mitigation Handbook*. Mammal Society.

Welsh Government. (2024) *Planning Policy Wales*. 12th Edition. Available online at: https://www.gov.wales/sites/default/files/publications/2024-02/planning-policy-wales-edition-12_1.pdf

Welsh Government (2021) *Future Wales: The National Plan 2040*. Available online at: <https://bit.ly/323w7p4>

Plan 1: Site Location



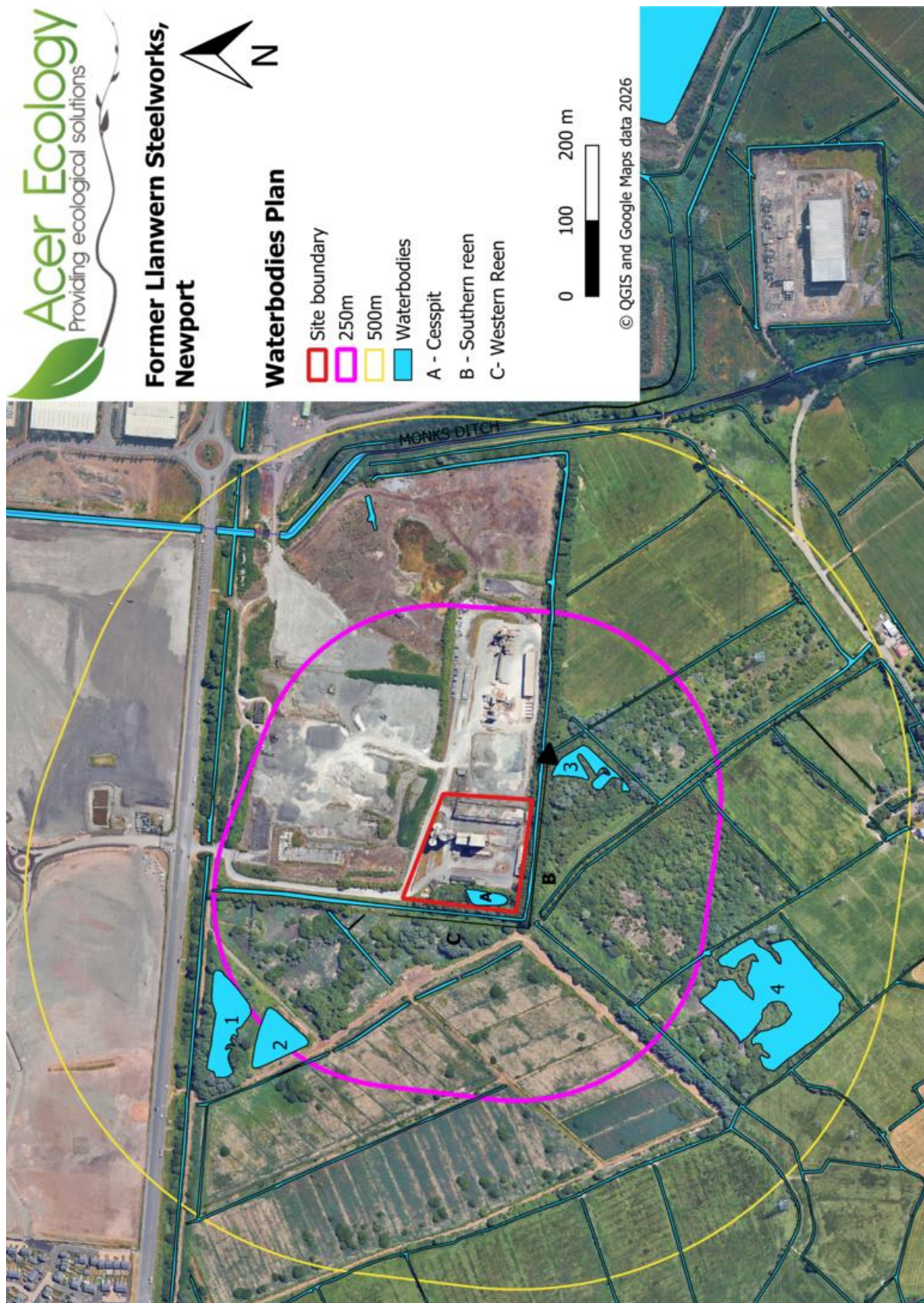
Plan 2: Protected Sites Within 2 km of Site



Plan 3: Location of Buildings on Site



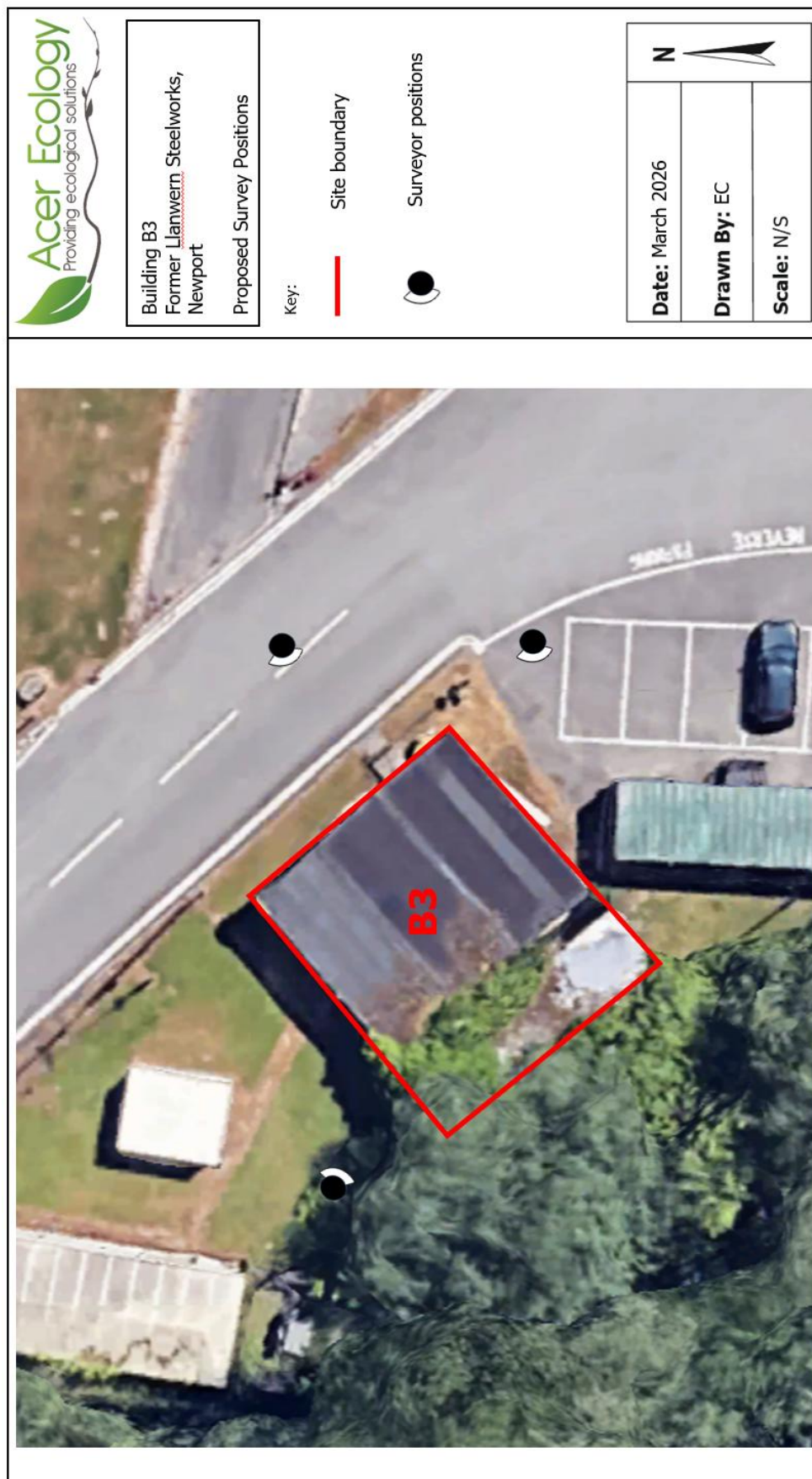
Plan 4: Location of Water Bodies Within 0.5 km



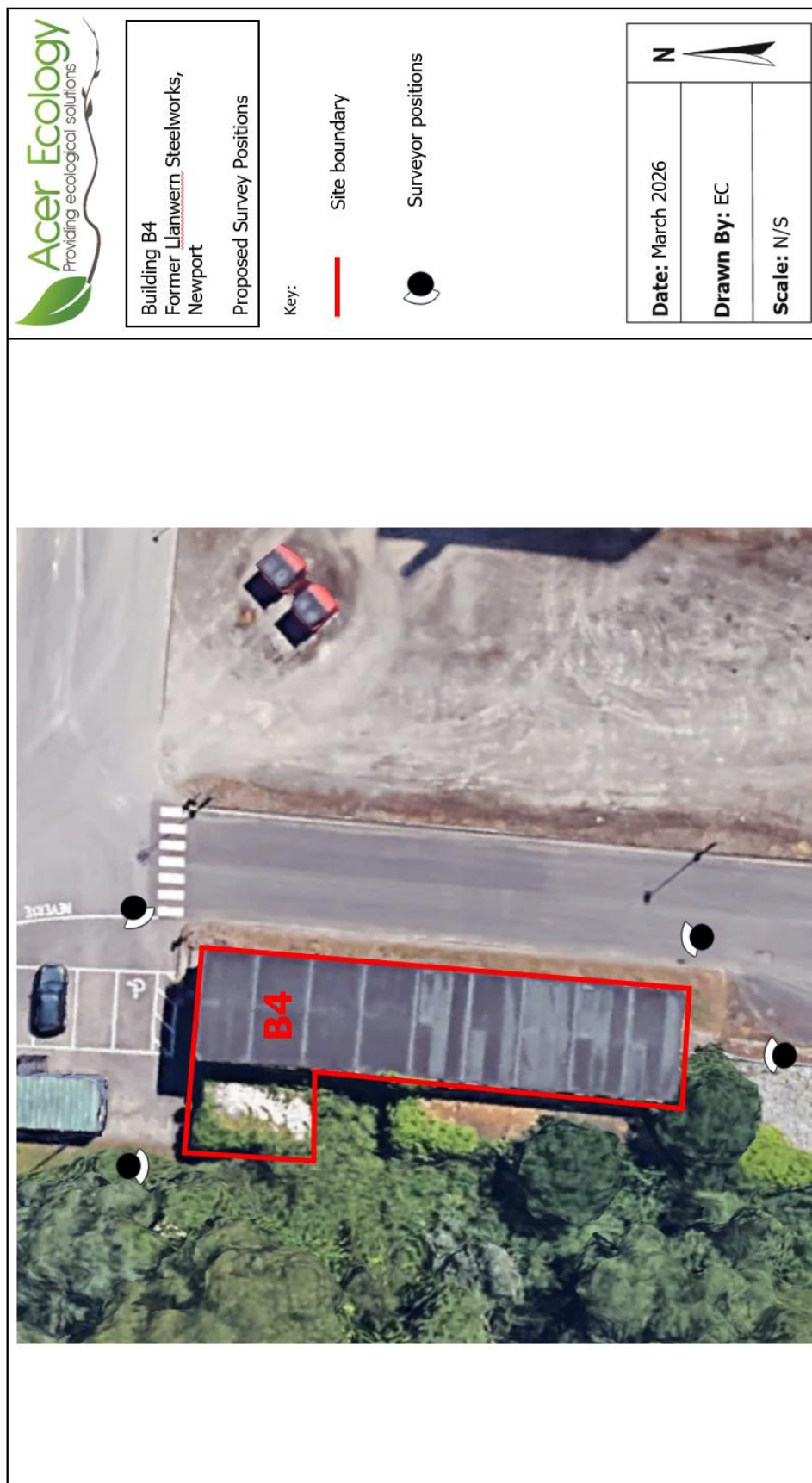
Plan 5: Habitats and Vegetation



Plan 6A: Proposed Surveyor Positions – Building B3



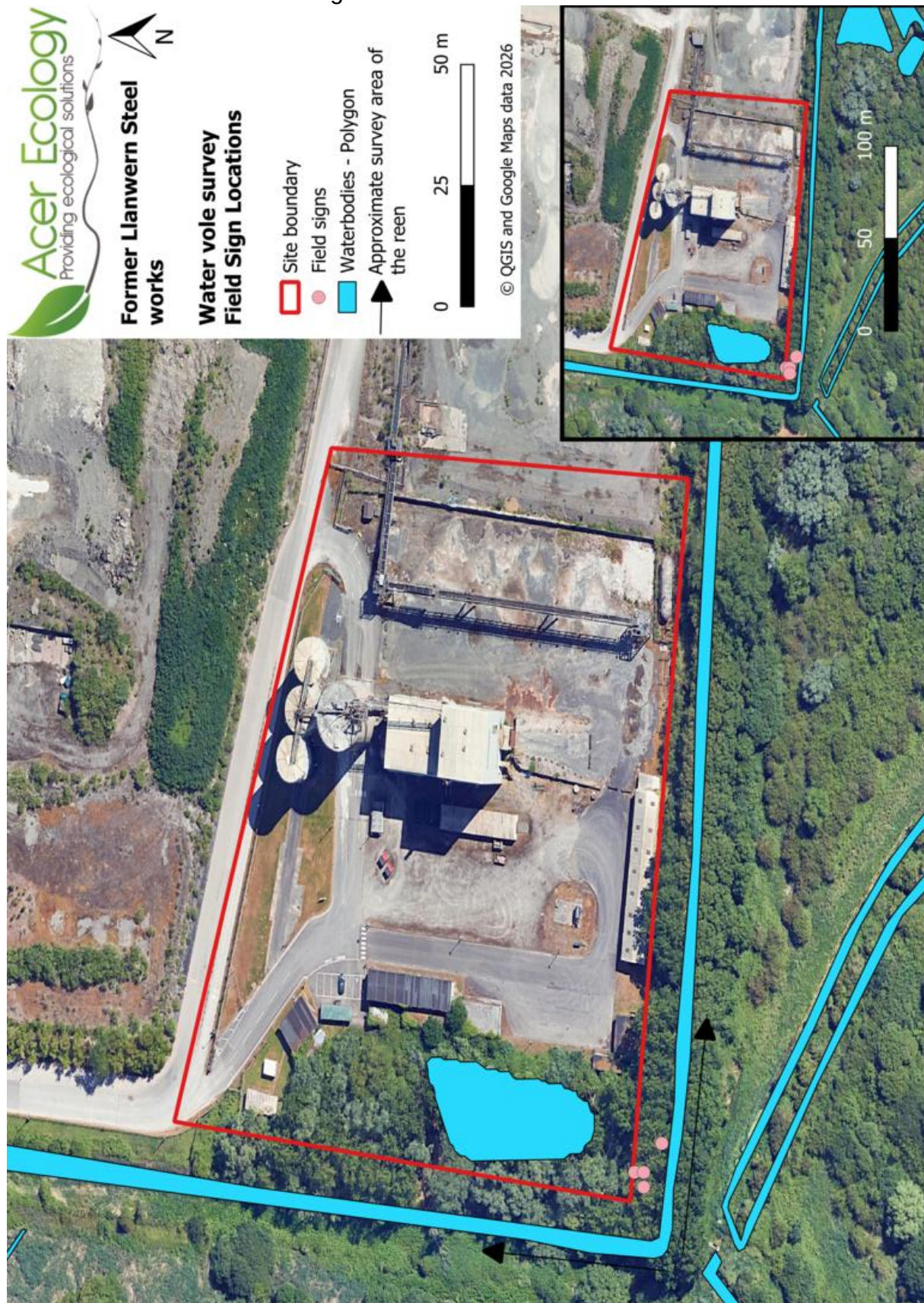
Plan 6B: Proposed Surveyor Positions – Building B4



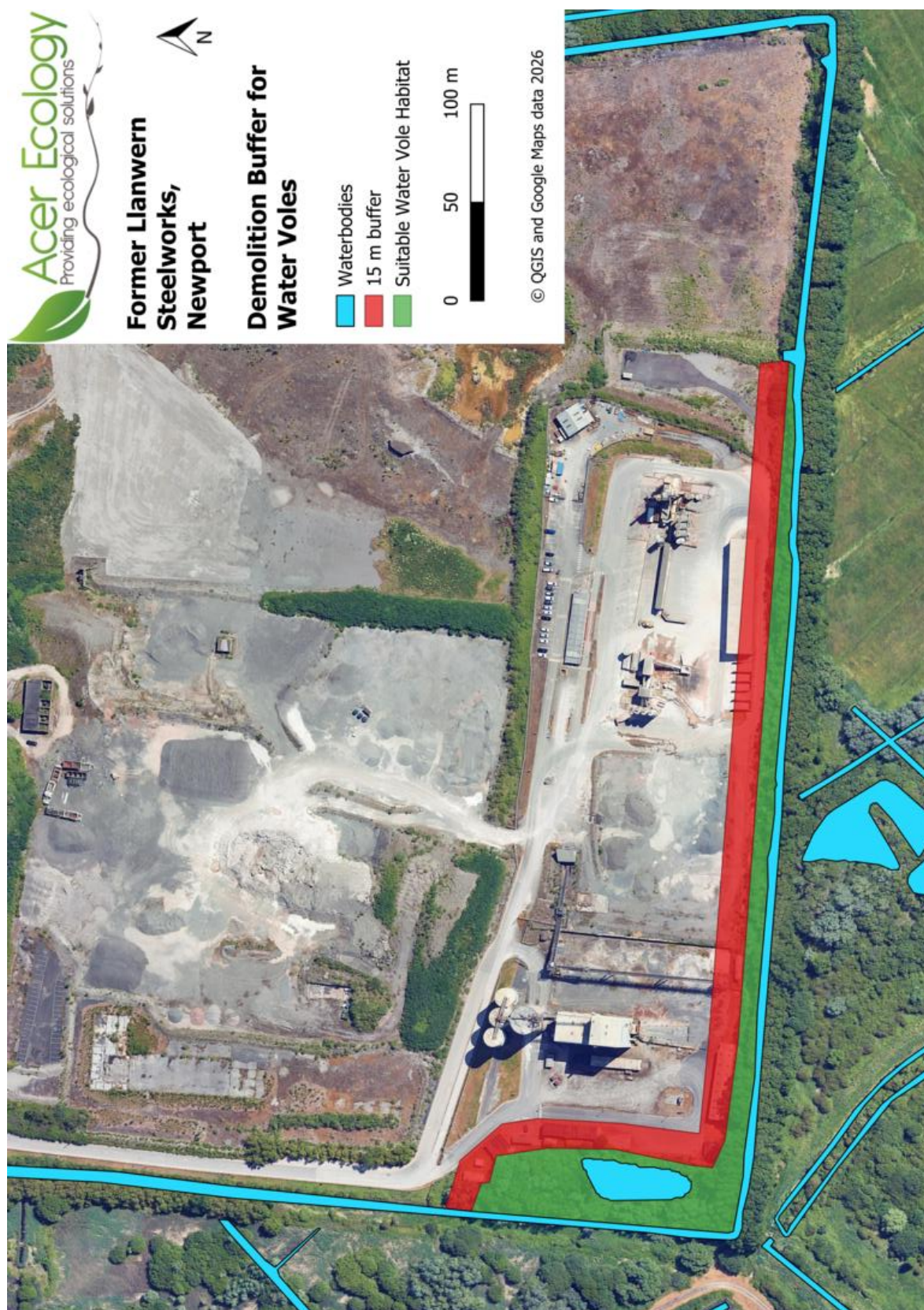
Plan 6C: Proposed Surveyor Positions – Building B5



Plan 7: Water Vole Field Sign Locations



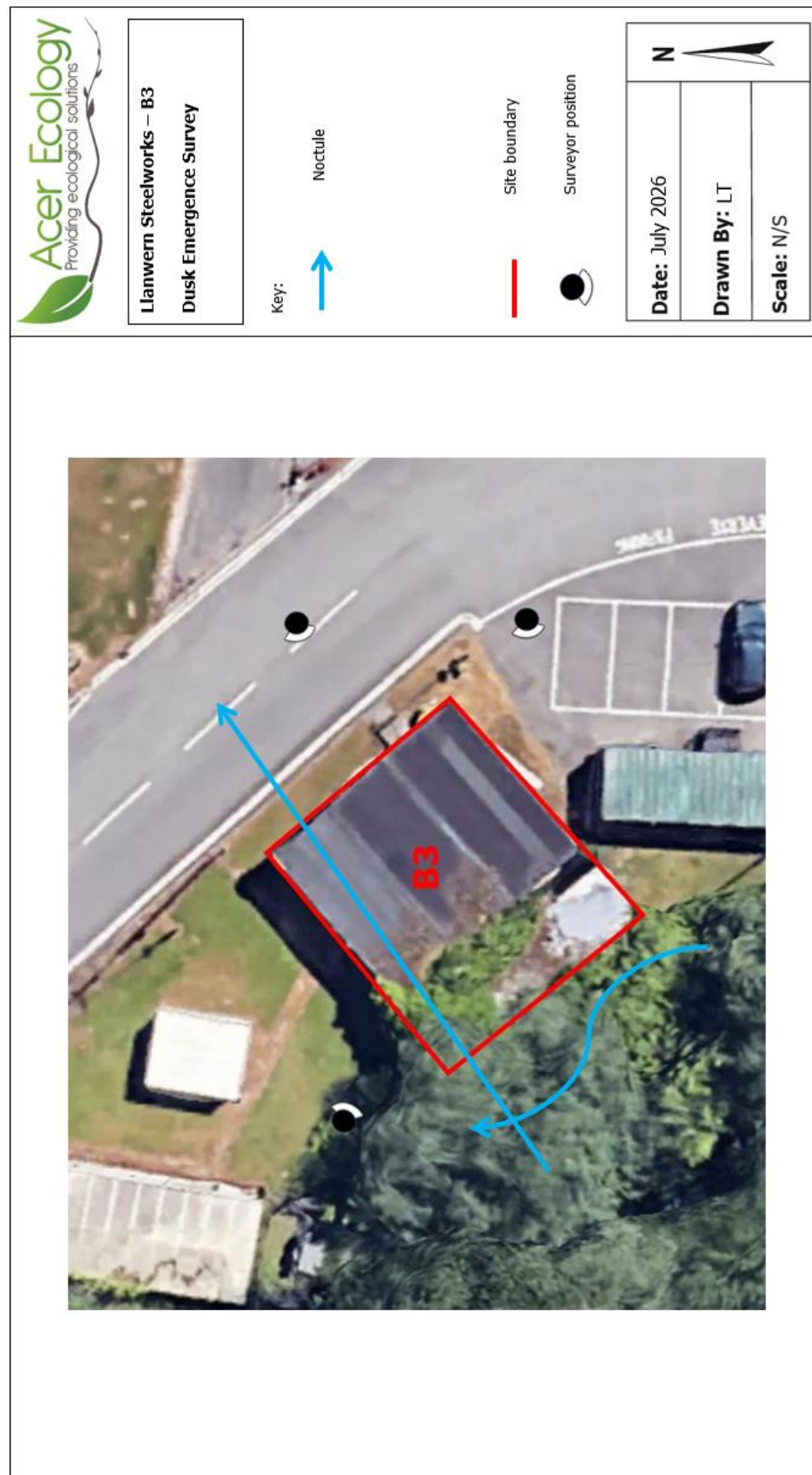
Plan 8: Demolition Buffer Around Suitable Water Vole Habitat Plan



*This plan is a representation of the suitable habitat and buffer, the exact buffer location will be decided by the ecologist on site.

Plan 9: Dusk Emergence Survey Results

B3:



B4:



B5:



Appendix 1: Legislation and Policy Relating to Statutory and Non-Statutory Designated Sites and Planning Policy Relevant to Site

SSSIs

SSSIs represent the UK's best areas for wildlife and natural features, supporting rare, threatened, and characteristic species, habitats, and geological formations. They are protected under the Wildlife and Countryside Act 1981, as amended by the Countryside and Rights of Way Act 2000 and the Natural Environment and Rural Communities Act 2006.

SSSIs are of national (second-tier) biodiversity significance and form the foundation of nature conservation in the UK. Many are also designated as international (first-tier) Natura 2000 sites. It is an offence to intentionally or recklessly damage the protected features of a SSSI.

Ancient Semi-Natural Woodland

Ancient woodland is defined as an irreplaceable natural resource that has remained constantly wooded since at least 1600. The varied and unique habitats ancient woodland sites provide for many of the UK's most important and threatened fauna and flora species cannot be re-created and cannot afford to be lost. Ancient woodland is afforded protection against loss and degradation by Planning Policy Wales.

The Welsh Assembly has recognised that areas of ancient woodland are declining and becoming increasingly fragmented and emphasises the importance of conserving ancient woodland and its value as a biodiversity resource through the publication of Planning Policy Wales (2024).

Paragraph 5.2.9 states: "Trees, woodlands and hedgerows are of great importance, both as wildlife habitats and in terms of their contribution to landscape character and beauty. They also play a role in tackling climate change by trapping carbon and can provide a sustainable energy source. Local planning authorities should seek to protect trees, groups of trees and areas of woodland where they have natural heritage value or contribute to the character or amenity of a particular locality. Ancient and semi-natural woodlands are irreplaceable habitats of high biodiversity value which should be protected from development that would result in significant damage."

Paragraph 5.2.10: "Local planning authorities should, as appropriate, make full use of their powers to protect and plant trees to maintain and improve the appearance of the countryside and built up areas."

Furthermore, the UK Biodiversity Action Plan (UKBAP) includes objectives to conserve, and, where possible, enhance: the quality and range of wildlife habitats and ecosystems; the overall populations and natural ranges of native species; internationally important and threatened species, habitats and ecosystems; species, habitats and natural and managed ecosystems characteristic of local areas; and biodiversity of natural and semi-natural habitats where this has been diminished over recent decades.

Trees

Paragraph 6.4.42 of Planning Policy Wales version 12²⁷ states that “*permanent removal of trees, woodland and hedgerows will only be permitted ... where it would achieve significant and clearly defined public benefits.*” Furthermore:

Where individual or groups of trees are removed, compensatory planting must be provided on-site and at a minimum ratio of at least three trees of a similar type and compensatory size planted for every one lost.

This is mirrored in supporting commentary from Welsh Government and local authorities:

During a Senedd plenary (Dec 11, 2024)²⁸, Huw Irranca-Davies reiterated that when tree loss is unavoidable, replacement tree planting shall be ... at a minimum ratio of at least three trees ... for every single one lost.

Environment (Wales) Act 2016

The Environment (Wales) Act Section 6 duty, or the Biodiversity Duty, requires public authorities to seek to maintain and enhance biodiversity and in so doing promote the resilience of ecosystems. In fulfilling this duty, planning authorities must have regard to the list of habitats and species of principal importance for Wales, published under Section 7 of the Environment (Wales) Act 2016.

The Section 6 duty requires that developments should not be permitted which result in net loss of value to biodiversity, and must seek to achieve biodiversity net gain. Where net loss cannot be achieved through avoidance or mitigation, compensation is required but it should be noted that ancient woodland cannot be compensated for.

Planning Policy Wales (2024)

The primary objective of PPW is to ensure the planning system contributes towards the delivery of sustainable development and improves the social, economic, environmental and cultural well-being of Wales, as required by the Planning (Wales) Act 2015, the Well-being of Future Generations (Wales) Act 2015 and other key legislation.

Planning Policy Wales (PPW) Edition 12 (Welsh Government, 2024) states that planning authorities must follow a stepwise approach to maintain and enhance biodiversity and build resilient ecological networks by ensuring that any adverse environmental effects are firstly avoided, then minimized, mitigated, and as a last resort compensated for; enhancement must be secured wherever possible. The first priority for planning authorities is to avoid damage to biodiversity and ecosystem functioning. Where there may be harmful environmental effects, planning authorities will need to be satisfied that any reasonable alternative sites that would result in less harm, no harm or gain have been fully considered.

²⁷ <https://www.gov.wales/sites/default/files/publications/2024-07/planning-policy-wales-edition-12.pdf>

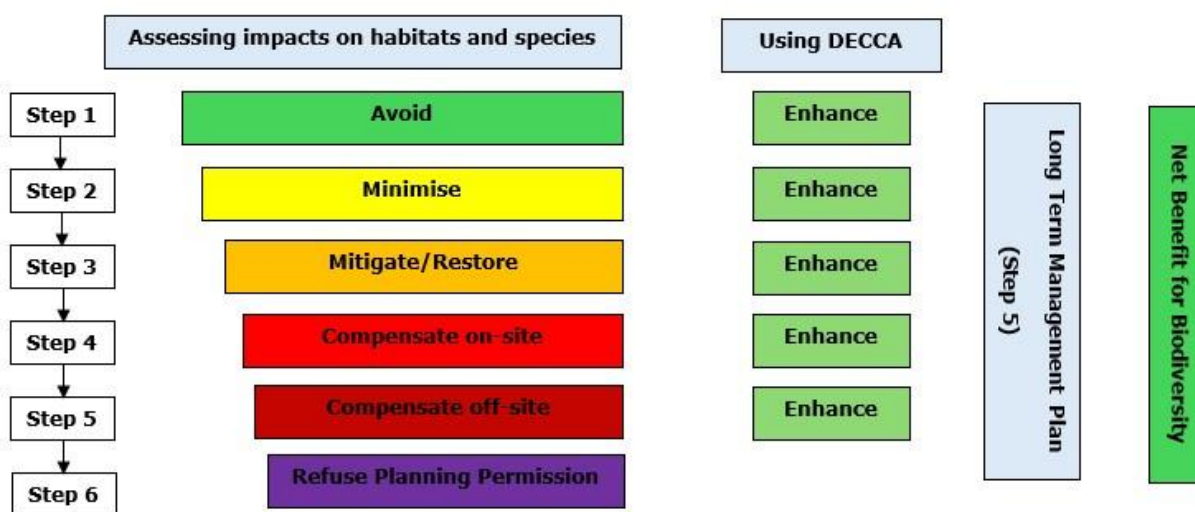
²⁸ <https://cofnod.senedd.cymru/Plenary/14210>

On 11th October 2023 Julie James MS Minister for Climate Change finalised policy for inclusion in the next iteration of Planning Policy Wales (version 12)²⁹. The new chapter 6 came into force with immediate effect. This was followed by the publication of version 12 of Planning Policy Wales in February 2024. The main changes to policy can be summarised as follows:

Green Infrastructure: stronger emphasis on taking a proactive approach to green infrastructure covering cross boundary considerations, identifying key outputs of green infrastructure assessments, the submission of proportionate green infrastructure statements with planning applications and signposting Building with Nature standards.

Net Benefit for Biodiversity and the Step-wise Approach: further clarity is provided on securing net benefit for biodiversity through the application of the step-wise approach, including the acknowledgement of off-site compensation measures as a last resort, and, the need to consider enhancement and long-term management at each step.

The use of the green infrastructure statement as a means of demonstrating the stepwise approach is made explicit. The importance of strategic collaboration to identify and capture larger scale opportunities for securing a net benefit for biodiversity is recognised.



Protection for Sites of Special Scientific Interest: strengthened approach to the protection of SSSIs, with increased clarity on the position for site management and exemptions for minor development necessary to maintain a 'living landscape'. Other development is considered unacceptable as a matter of principle. Exceptionally, a planned approach may be appropriate where necessary safeguards can be secured through a development plan.

Trees and Woodlands: closer alignment with the stepwise approach, along with promoting new planting as part of development based on securing the right tree in the right place.

²⁹ <https://www.gov.wales/sites/default/files/publications/2023-10/annex-addressing-the-nature-emergency-through-the-planning-system.pdf>

Technical Advice Notes

Planning Policy Wales is supported by a series of more detailed Technical Advice Notes (TANs), of which TAN 5: Nature Conservation and Planning (2009)³⁰ is of relevance.

Newport City Council Local Development Plan

The Newport City Council Local Development Plan (2015)²⁹ states that: 'developers must consider the effect of any proposals on legally protected species' including 'European Protected Species' protected under the Conservation of Habitats and Species (Amendment) (EU Exit) ['CHSAEU'] Regulations). 'Developments should also seek to provide biodiversity enhancement'.

'Where development is permitted, planning conditions or legal agreements will be used in order to secure the necessary mitigation.'

Biodiversity Net Benefit

Paragraph 6.4.5 of Planning Policy Wales (PPW) 12 states that "*planning authorities must seek to maintain and enhance biodiversity in the exercise of their functions. This means that development should not cause any significant loss of habitats or populations of species, locally or nationally and must provide a net benefit for biodiversity*" (NBB) and improve, or enable the improvement, of the resilience of ecosystems. This policy and subsequent policies in Chapter 6 of PPW 11 respond to the Section 6 Duty of the Environment (Wales) Act 2016.

DECCA is the framework that NRW has developed for evaluating ecosystem resilience to demonstrate a net benefit for biodiversity (NBB)³¹. This is based on the following attributes:

- Diversity, extent, condition and connectivity;
- Adaptability, recovery and resistance; and
- Aspects of ecosystem resilience.

To comply with these requirements the main ecosystems on site and within the zone of influence need to be identified and set out how the diversity, extent, connectivity and condition of those ecosystems will be maintained and enhanced post-development. Recent changes to Planning Policy Wales³² mean that some additional guidance will be required.

³⁰ <https://www.gov.wales/sites/default/files/publications/2018-09/tan5-nature-conservation.pdf>

³¹ <https://cdn.cyfoethnaturiol.cymru/media/693356/resilient-ecological-networks-practitioner-guide.pdf?mode=pad&rnd=132612537900000000>

³² <https://www.gov.wales/addressing-nature-emergency-through-planning-system-update-chapter-6-planning-policy-wales>

Appendix 2: Protected Species Legislation Relevant to Site

Birds

All wild British birds (while nesting, building nests and sitting on eggs), their nests and eggs (with certain limited exceptions) are protected by law under Section 1 of the Wildlife and Countryside Act 1981 (as amended) and the Countryside and Rights of Way Act 2000. Included in this protection are all nests (at whatever stage of construction or use) and all dependent young until the nest is abandoned and the young have fledged and become independent. Particularly rare species such as barn owl (*Tyto alba*) are listed on Schedule 1 which gives them additional protection from disturbance whilst nest building, whilst near a nest with eggs or young, or from disturbing the dependent young.

Section 10.8 of the Conservation of Habitats and Species Regulations 2017 state that Local authorities must use all reasonable endeavours to avoid any deterioration of habitats of wild birds.

Bats

All species of bats and their roosting sites are protected under the Wildlife and Countryside Act 1981 (as amended) and the Conservation of Habitats and Species Regulations 2017 which continues to apply in UK law through the Conservation of Habitats and Species (Amendment) (EU Exit) [‘CHSAEU’] Regulations 2019.

All species of UK bats are designated as ‘European protected species’. Seven species of bat (soprano pipistrelle (*Pipistrellus pygmaeus*), barbastelle (*Barbastella barbastellus*), Bechstein’s (*Myotis bechsteinii*), noctule (*Nyctalus noctula*), brown long-eared (*Plecotus auritus*), lesser horseshoe (*Rhinolophus hipposideros*) and greater horseshoe bats (*Rhinolophus ferrumequinum*)) are listed under Section 7 of the Environment (Wales) Act 2016 as being of principal importance for maintaining and enhancing biodiversity in Wales.

Regulation 55(2) of the Conservation of Habitats and Species Regulations 2017 defines the circumstances where derogation is allowed for an affected EPS and a licence could be issued by NRW. All three test are to be met by the proposals prior to planning permission being allowed which include:

1. The first test set out in Regulation 55(2)(e) deems that the need for the development should be in the interests of public health, public safety and an imperative reason of overriding public interest, which includes beneficial consequences of primary importance for the environment;
2. The second test set out in Regulation 55(9)(a) deems that there should be and ‘no satisfactory alternative’;
3. The third test set out in Regulation 55(9)(b) deems that the development should have no detrimental effect on the favourable conservation status of an EPS.

Great Crested Newt

GCN is a protected species afforded full protection under UK legislation. This protection extends to the habitats which support GCN and it is generally assumed that the species might be present in terrestrial

habitats up to 0.5km³³ of a breeding pond, depending on habitat quality, connectivity and population size. The GCN newt is a priority species in Wales under Section 7 of the Environment (Wales) Act 2016.

Regulation 55(2) of the Conservation of Habitats and Species Regulations 2017 defines the circumstances where derogation is allowed for an affected EPS and a licence could be issued by NRW. All three test are to be met by the proposals prior to planning permission being allowed which include:

1. The first test set out in Regulation 55(2)(e) deems that the need for the development should be in the interests of public health, public safety and an imperative reason of overriding public interest, which includes beneficial consequences of primary importance for the environment;
2. The second test set out in Regulation 55(9)(a) deems that there should be and 'no satisfactory alternative';
3. The third test set out in Regulation 55(9)(b) deems that the development should have no detrimental effect on the favourable conservation status of an EPS.

Otters

Otters are a 'European Protected Species'. Their breeding sites or resting places³⁴ are fully protected under UK legislation. Otter is a priority species in Wales Under Section 7 of the Environment (Wales) Act 2016.

Works affecting otter are subject to licensing procedures by NRW.

Water Voles

Water voles are fully protected under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) which prohibits the deliberate killing or injury of individuals, damaging, destroying or blocking access to their places of protection (either intentionally or through ignorance), disturbing them in a place of shelter, or possessing them. The habitats of common water voles are not specifically protected. Water voles are listed as a priority species in Wales under Section 7 of the Environment (Wales) Act 2016.

Reptiles

With the exception of smooth snake (*Coronella austriaca*) and sand lizard (*Lacerta agilis*) (which are afforded greater protection), common reptiles are protected under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). They are given so-called 'partial protection', which prohibits the deliberate killing or injury of individuals. The habitats of common reptiles are not specifically protected. These species are listed as priority species in Wales under Section 7 of the Environment (Wales) Act 2016.

Hedgehogs

³³ GCNs have been recorded travelling long distances: 1.3km within a 7-week period by an immature individual GCN (Kupfer 1998, detailed in Jehle et al 2011); 250m in a study by Beebee and Griffiths (2000) and 120-360m in a study by Arntzen and Tenuis (1993). In addition, a study by Duff (1989) found that over half of a population overwintered in an area more than 120m away from the main breeding pond. However, long-distance movement of GCN is rare and most studies indicate that much shorter distances are typical (Jehle et al 2011). As a general rule, suitable habitats within 250m of a breeding pond are likely to be used most frequently (English Nature 2001).

³⁴ Resting places are defined as 'areas that are essential to sustain an animal or group of animals when they are not active' (Anon 2007).

Hedgehogs are listed as a *Species of Principal Importance* under Section 7 of the Environment (Wales) Act 2016 and are a *Red List* mammal in Britain. They are also protected under Schedule 6 of the Wildlife and Countryside Act 1981 (as amended), which prohibits killing or taking them by specified methods.

Under Section 11(1) of the Act, hedgehogs may not be killed or captured using self-locking snares, bows or crossbows, explosives (other than firearm ammunition), live decoys, traps, nets, electrical stunning devices, poisons or stupefying substances, gases or smoke, automatic or semi-automatic weapons, night-sighting or illuminating devices, mirrors or dazzling devices, sound recordings, or mechanically propelled vehicles in immediate pursuit.

Acer Ecology

Appendix 3: Species Recorded

All species recorded by Acer Ecology, 2026

Taxonomic Name	Common Name	W	LM	CG	LDA	PMR	PIL	TF	Status
Trees and Shrubs									
<i>Betula pendula</i>	Silver birch								
<i>Betula</i> sp.	Birch								
<i>Buddleia davidii</i>	Buddleia								Alien
<i>Fraxinus excelsior</i>	Ash								
<i>Hedera helix</i>	Ivy								
<i>Pinus</i> sp.	Pine								
<i>Populus nigra</i>	Black poplar								
<i>Rubus fruticosus</i>	Bramble								
Herbaceous Plants									
<i>Achillea millefolium</i>	Yarrow								
<i>Bellis perennis</i>	Daisy								
<i>Centaurea nigra</i>	Common knapweed		LM	CG					
<i>Cirsium arvense</i>	Creeping thistle								
<i>Dactylis glomerata</i>	Cocksfoot								
<i>Festuca rubra</i>	Red fescue								
<i>Ficaria verna</i>	Lesser celandine								
<i>Fragaria vesca</i>	Wild strawberry								
<i>Geranium molle</i>	Dove's-foot cranesbill								
<i>Geranium robertianum</i>	Herb Robert								
<i>Glechoma hederacea</i>	Ground-ivy								
<i>Helminthotheca echinoides</i>	Bristly oxtongue						PIL		
<i>Hypericum perforatum</i>	St John's-wort					PMR			
<i>Jacobaea vulgaris</i>	Common ragwort								
<i>Lolium perenne</i>	Perennial ryegrass								
<i>Plantago lanceolata</i>	Ribwort plantain								
<i>Prunella vulgaris</i>	Self-heal								
<i>Pulicaria dysenterica</i>	Common fleabane					PMR			
<i>Ranunculus repens</i>	Creeping buttercup								
<i>Sedum acre</i>	Biting stonecrop								
<i>Taraxacum officinalis</i>	Dandelion								
<i>Trifolium repens</i>	White clover								
<i>Urtica dioica</i>	Nettle								
<i>Veronica</i> sp.	Speedwell								
'Habitat Indicator Species' Totals (Wales Biodiversity Partnership 2008 ³⁵)			1	1		2	1		
		W	LM	CG	LDA	PMR	PIL	TF	
'Primary' and 'Contributory' Totals (Wales Biodiversity Partnership 2008)									

³⁵ Wales Biodiversity Partnership (2008) Wildlife Sites Guidance Wales: A Guide to Develop Local Wildlife Systems in Wales. Wales Biodiversity Partnership/Welsh Assembly Government.

Acer Ecology

		Primary Species	Contributory Species
--	--	-----------------	----------------------

Key to Indicator Species (Wales Biodiversity Partnership 2008³⁶)

W - Woodland, LM – Lowland meadow, CG - Calcareous Grassland, LDA – Lowland Dry Acid Grassland, PMR Purple moor-grass and rush pasture, PIL – Post Industrial Land, TF Species-rich Tillage Fields and Margins

PS – Primary Species, CS – Contributory Species

SINC Selection

Sites which support one primary species or five contributory species; or habitats which support eight lowland meadow, eight calcareous grassland, seven lowland dry acid grassland, twelve purple moor-grass and rush pasture or eight tillage field and margins indicator species, should be considered for SINC selection. Post-industrial sites supporting 20 or more indicator species from the combined post-industrial land, acid, neutral, calcareous and marshy grassland lists should be also considered for selection.

WCA 5 – Species protected under Schedule 5 of the Wildlife and Countryside Act

WCA 9 – Species listed under Schedule 9 of the Wildlife and Countryside Act

Appendix 4: Guidelines for Assessing Potential Suitability of Commuting and Foraging and Roosting Habitats for Bats

Suitability	Commuting and Foraging Habitat
Negligible	Negligible habitat features on-site likely to be used by commuting and foraging bats.
Low	<u>Commuting Habitat</u> Habitat that could be used by small numbers of commuting bats such as a gappy hedgerow or un-vegetated stream, but isolated, i.e. not very well connected to the surrounding landscape by other habitat. <u>Foraging Habitat</u> Suitable but isolated habitat that could be used by small numbers of foraging bats such as a lone tree (not in a parkland situation) or a patch of scrub.
Moderate	<u>Commuting Habitat</u> Continuous habitat connected to the wider landscape that could be used by bats for commuting such as lines of trees and scrub or linked back gardens. <u>Foraging Habitat</u> Habitat that is connected to the wider landscape that could be used by bats for foraging such as trees, scrub, grassland or water.
High	<u>Commuting Habitat</u> Continuous high-quality habitat that is well connected to the wider landscape that is likely to be used regularly by commuting bats such as river valleys, streams, hedgerows, lines of trees and woodland edge. <u>Foraging Habitat</u> High-quality habitat that is well connected to the wider landscape that is likely to be used regularly by foraging bats such as broadleaved woodland, tree-lined watercourses and grazed parkland. <u>Proximity to Known Bat Roosts</u> Site is close to and connected to known roosts.
Suitability	Description of Roosting Habitat
Negligible	Negligible habitat features on site likely to be used by roosting bats.
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection appropriate conditions ³⁷ and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (i.e. unlikely to be suitable for maternity) or hibernation ³⁸ .
Moderate	A structure with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status ³⁹ (with respect to roost type only) the assessments in this table are made irrespective of conservation status, which is established after presence is confirmed.
High	A structure with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat.

³⁷ For example, in terms of temperature, humidity, height above ground levels, light levels or levels of disturbance.

³⁸ Evidence from the Netherlands, shows mass swarming events of common pipistrelle bats in the autumn followed by mass hibernation in a diverse range of building types in urban environments (Korsten *et al.*, 2015). This phenomenon requires some research in the UK but ecologists should be aware of the potential for large numbers of this species to be present during the autumn and winter in large buildings in highly urbanised environments.

³⁹ 'High roost status' is not defined within Collins, 2016. Acer Ecology Ltd. interpret maternity, hibernation, swarming sites, mating sites, and satellite roosts as being of 'high roost status' and exclude day roosts, night roosts, feeding roosts, transitional/occasional roosts from this definition.

Appendix 5: Recommended Survey Number for Dusk Emergence Surveys

Roost Suitability	Minimum Number of Dusk Surveys Required ⁴⁰
Negligible	None.
None	None.
Low Roost Suitability or PRF-I	One survey visit comprising of a dusk emergence survey ⁴¹ between May and August for structures. No further surveys are required for trees assessed as low suitability.
Moderate Roost Suitability	Two separate dusk emergence survey visits ⁴² . Surveys must occur between May and September ⁴³ , with at least one survey between May and August ⁴⁴ .
High Suitability or PRF-M	Three separate dusk emergence survey visits. Surveys must occur between May to September, with at least two surveys between May and August.

⁴⁰ Adapted from Tables 7.1 and 7.2 of the Bat Surveys for Professional Ecologists: Good Practice Guidelines (Collins, 2023).

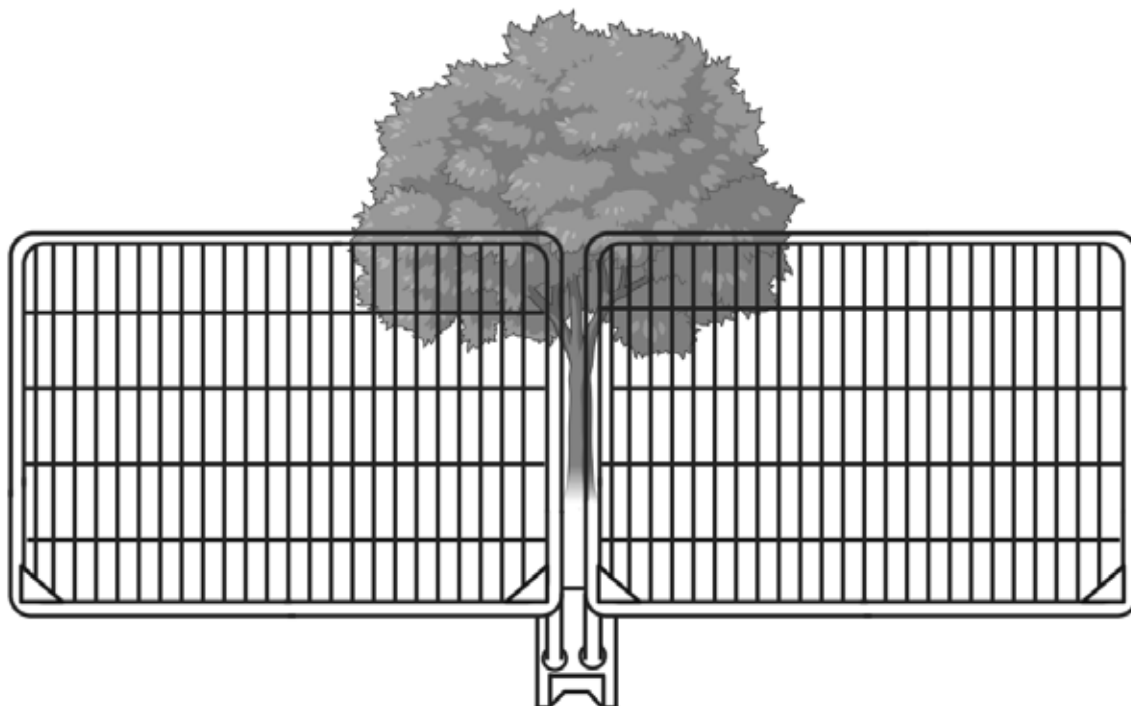
⁴¹ Structures that have been categorised as low potential can be problematic and the number of surveys required should be judged on a case-by-case basis (see para 5.2.44). In some cases, more than one survey may be needed, particularly where there are several buildings in this category.

⁴² Multiple survey visits should be spread out to sample as much of the recommended survey period (see Table 7.1) as possible; it is recommended that surveys are spaced at least three weeks apart, preferably more.

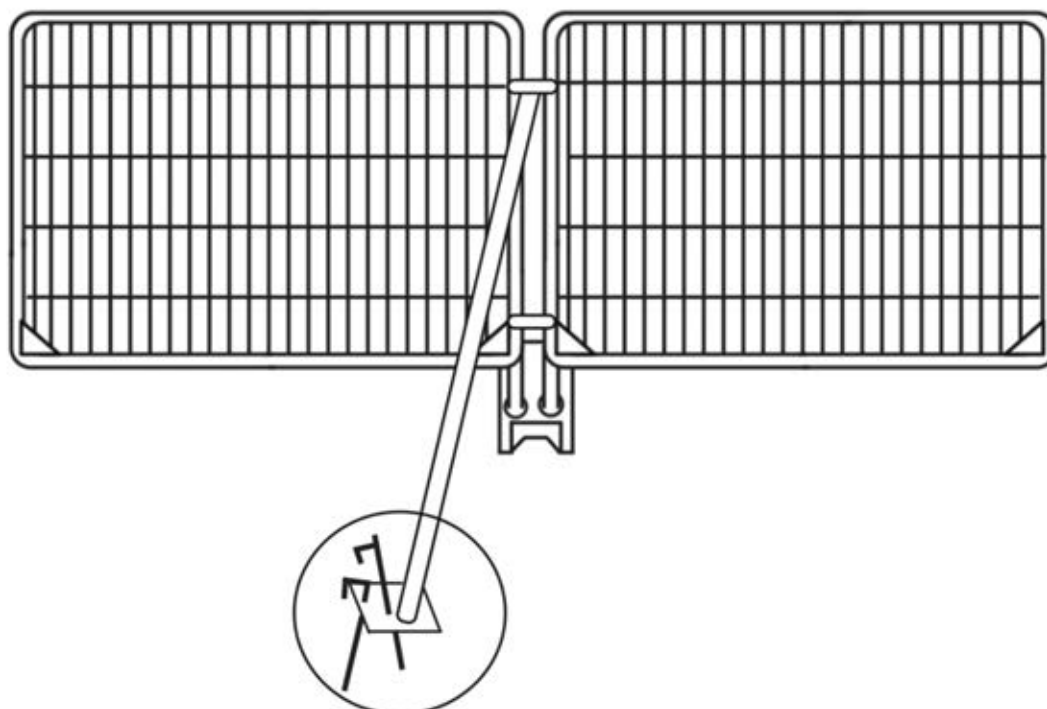
⁴³ September surveys are both weather- and location-dependant. Conditions may become more unsuitable in these months, particularly in more northerly latitudes, which may reduce the length of the survey season. September surveys are likely to miss maternity roosts due to dispersal before this time, but may still pick up mating roosts.

⁴⁴ Multiple survey visits should be spread out to sample as much of the recommended survey period as possible; it is recommended that surveys are spaced at least three weeks apart, preferably more. Survey timings should consider the prevailing conditions in the year of survey, which will vary geographically. In years with a cold spring, the surveys should not be started in early May or all be completed in May. The surveys should maximise the possibility of detecting maternity roosts, which can switch roosts between pregnancy and lactation, and the optimum coverage includes the pre-parturition, post-parturition, and mating periods.

Appendix 6: Protective Barriers



Wildlife barrier surrounding tree



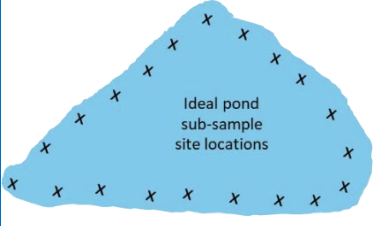
Stabilizer strut with base plate secured with ground pins
Redrawn by Acer Ecology Ltd after BS 5837:2012 Figure 1

Appendix 7: GCN eDNA Field Survey Protocol Guidance Extract

Stages of field sampling protocol

- Step 1 Identify where 20 samples will be taken from the pond. The location of sub-samples should be spaced as evenly as possible around the pond margin, and if possible targeted to areas where there is vegetation which may be being used as egg laying substrate and open water areas which newts may be using for displaying.
- Step 2 Open the sterile Whirl-Pak bag by tearing off the clear plastic strip c 1cm from the top (along the perforated line), then pulling the tabs. The bag will stand-up by itself.
- Step 3 Collect 20 samples of 30 mL of pond water from around the pond (see 1 above) using the ladle (fill the ladle), and empty each sample into the Whirl-Pak bag. At the end the Whirl-Pak bag should be just under half full (600 mL).
- NOTE: Before each ladle sample is taken, the pond water column should be mixed by gently using the ladle to stir the water from the surface to close to the pond bottom without disturbing the sediment on the bed of the pond. It is advisable not to sample very shallow water (less than 5-10 cm deep).
- Step 4 Once 20 samples have been taken, close the bag securely using the top tabs and shake the Whirl-Pak bag for 10 seconds. This mixes any DNA across the whole water sample.
- Step 5 Put on a new pair of gloves to keep the next stage as uncontaminated as possible.
- Step 6 Using the clear plastic pipette provided take c15 mL of water from the Whirl-Pak bag and pipette into a sterile tube containing 35 mL of ethanol to preserve the eDNA sample (i.e. fill tube to the 50 mL mark). Close the tube ensuring the cap is tight.
- Step 7 Shake the tube vigorously for 10 seconds to mix the sample and preservative. This is essential to prevent DNA degradation. Repeat for each of the 6 conical tubes in the kit. Before taking each sample, stir the water in the bag to homogenize the sample - this is because the DNA will constantly sink to the bottom.
- Step 8 Empty the remaining water from the Whirl-Pak bag back into the pond.
- Step 9 The box of preserved sub-samples is then returned at ambient temperature immediately for analysis. If batches of samples are collected and stored prior to analysis they should be refrigerated at 2-4° C. Kits can be stored for up to one month in a refrigerator before analysis. It is not necessary to freeze samples. Freezing may damage storage bottles, which can lead to leaking during transit, and also unnecessarily increases costs by requiring refrigerated transport. The length of time eDNA samples are stored in a refrigerator prior to analysis should be recorded and passed on to the analysing laboratory. Use an appropriate labelling system to ensure that the kits are supplied with a unique reference number.

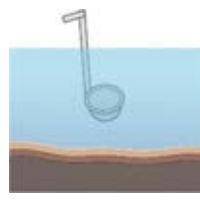
Appendix 8: Great Crested Newt eDNA Guidance Step by Step Sample Collection Guide



1. Identify 20 evenly spaced sites around the pond perimeter-include areas likely to contain GCN.



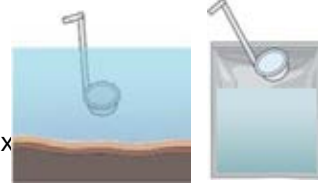
2. Put on the gloves provided. Gloves should be worn at all times during collection.



3. Collect one ladle of pond water from each pre-identified sites. Gently mix the water column and avoid disturbing sediment.



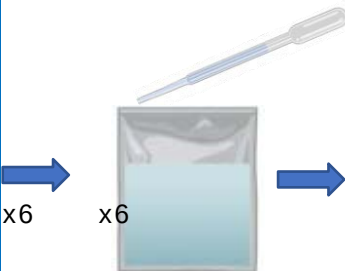
4. Transfer the ladle full of water to the bag provided. Avoid entering the water and ensure that any sediment in the pond is not disturbed.



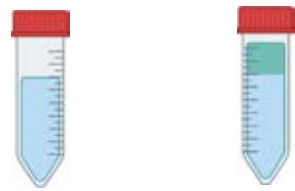
5. Repeat steps 4-5 at each of the sites identified in step 1 until 20 ladles of water have been placed within the bag.



6. Once all sites have been sampled, tightly scrunch the bag and shake vigorously for 10 seconds (to mix any DNA within the sample equally).



7. Using the pipette, transfer 15ml of water from the bag to each of the preservative filled tubes. You will need to use the pipette multiple times to take the level of the solution from 35ml to 50ml.



8. Close and ensure the lids are tight/not cross threaded. Shake vigorously for 3 seconds. Leaky tubes = DNA loss and could cross contaminate other samples.



Repeat this step for all 6 tubes.



9. Place all the tubes in the rack inside in the box. Fill in the form, place it in the box with the sample.



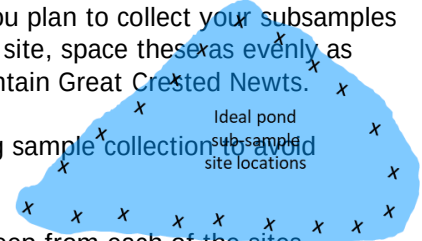
10. Return to the laboratory for analysis.



11. Results will be sent via the provided email address within your selected turnaround time.

Full detail - Sample Collection

1. Identify 20 sites around the perimeter of the pond where you plan to collect your subsamples from. To ensure the sampling effort is representative of the site, space these ~~as evenly~~ as possible and include vegetative areas and areas likely to contain Great Crested Newts.
2. Put on the gloves. Gloves should be worn at all times during sample collection to avoid contamination of samples.
3. Using the ladle, collect a subsample from at least 5-10cm deep from each of the sites previously identified in step 1 (total 20 samples). Transfer each ladle full of water to the bag provided.



Note: Mix the water column as you collect the sample, but avoid stirring or disturbing sediment. Avoid entering the water where possible and ensure that any sediment in the pond is not disturbed. Disturbed sediment could cause inhibition of the sample analysis, or disturb ancient DNA which has been preserved within the sediment.

4. Once all sites have been sampled, tightly scrunch the bag and shake vigorously for 10 seconds (to mix any DNA within the sample equally).
5. Using the pipette, transfer water from the bag to each of the preservative filled tubes. Repeat this step multiple times until 15ml is transferred (tube is filled to the 50ml mark).

Note: the tube is prefilled to 35ml, adding 15ml will require several pipette movements from the bag to the tube. See markings on tube for 50ml mark.

6. Close the tubes and ensure the lids are tight and not cross threaded. Shake each vigorously for 3 seconds.

Note: Cross threaded/leaky tubes result in loss of DNA and could cross contaminate other samples within your order. A significant loss of liquid before analysis could result in an inconclusive result.

7. Carefully place the tubes back in the cardboard rack.
8. Fill in the form, place it in the box with the sample and return to the laboratory for analysis.

Note: you can return unwanted components back to the laboratory for recycling/disposal.

9. Results will be sent via the provided email address within your selected turnaround time.

Tips:

Avoid entering the water as this will disturb sediment and can lead to inaccurate results.

Kit components are single use only and must not be reused for other samples.

If storage of samples is necessary before returning to the lab, samples should be refrigerated where possible. At a maximum, samples can be kept in the fridge for 4 weeks prior to analysis. Sending in a batch of samples? No need to fill out contact details multiple times, just include it on one of the forms in the box and we will work out the rest!

Our commitment to sustainability: we are continuously working to reduce the environmental impact of eDNA testing: switching to more sustainable suppliers, reducing single use plastics and utilizing recyclable and re-usable consumables where possible

Appendix 9: SureScreen Scientifics Laboratory Analysis



METHODOLOGY

The samples detailed above have been analysed for the presence of GCN eDNA following the protocol stated in DEFRA WC1067 'Analytical and methodological development for improved surveillance of the Great Crested Newt, Appendix 5.' (Biggs et al. 2014).

Each of the 6 sub-sample tubes are first centrifuged and pooled together into a single sample which then undergoes DNA extraction. The extracted sample is then analysed using real time PCR (qPCR), which uses species-specific molecular markers to amplify GCN DNA within a sample. These markers are unique to GCN DNA, meaning that there should be no detection of closely related species. If GCN DNA is present, the DNA is amplified up to a detectable level, resulting in positive species detection. If GCN DNA is not present then amplification does not occur, and a negative result is recorded.

Analysis of eDNA requires scrupulous attention to detail to prevent risk of contamination. True positive controls, negative controls and spiked synthetic DNA are included in every analysis and these have to be correct before any result is declared and reported. Stages of the DNA analysis are also conducted in different buildings at our premises for added security.

SureScreen Scientifics Ltd is ISO9001 accredited and participate in Natural England's proficiency testing scheme for GCN eDNA testing. They also carry out regular inter-laboratory checks on accuracy of results as part of our quality control procedures.

INTERPRETATION OF RESULTS

SIC: Sample Integrity Check [Pass/Fail]

When samples are received in the laboratory, they are inspected for any tube leakage, suitability of sample (not too much mud or weed etc.) and absence of any factors that could potentially lead to inconclusive results.

DC: Degradation Check [Pass/Fail]

Analysis of the spiked DNA marker to see if there has been degradation of the kit or sample between the date it was made to the date of analysis. Degradation of the spiked DNA marker may lead indicate a risk of false negative results.

IC: Inhibition Check [Pass/Fail]

The presence of inhibitors within a sample are assessed using a DNA marker. If inhibition is detected, samples are purified and re-analysed. Inhibitors cannot always be removed, if the inhibition check fails, the sample should be re-collected.

Result: Presence of GCN eDNA [Positive/Negative/Inconclusive]

Positive: GCN DNA was identified within the sample, indicative of GCN presence within the sampling location at the time the sample was taken or within the recent past at the sampling location.

Positive Replicates: Number of positive qPCR replicates out of a series of 12. If one or more of these are found to be positive the pond is declared positive for GCN presence. It may be assumed that small fractions of positive analyses suggest low level presence, but this cannot currently be used for population studies. In accordance with Natural England protocol, even a score of 1/12 is declared positive. 0/12 indicates negative GCN presence.

Negative: GCN eDNA was not detected or is below the threshold detection level and the test result should be considered as evidence of GCN absence, however, does not exclude the potential for GCN presence below the limit of detection.



METHODOLOGY

The samples detailed above have been analysed for the presence of GCN eDNA following the protocol stated in DEFRA WC1067 'Analytical and methodological development for improved surveillance of the Great Crested Newt, Appendix 5.' (Biggs et al. 2014). Each of the 6 sub-sample tubes are first centrifuged and pooled together into a single sample which then undergoes DNA extraction. The extracted sample is then analysed using real time PCR (qPCR), which uses species-specific molecular markers to amplify GCN DNA within a sample. These markers are unique to GCN DNA, meaning that there should be no detection of closely related species.

If GCN DNA is present, the DNA is amplified up to a detectable level, resulting in positive species detection. If GCN DNA is not present then amplification does not occur, and a negative result is recorded.

Analysis of eDNA requires scrupulous attention to detail to prevent risk of contamination. True positive controls, negative controls and spiked synthetic DNA are included in every analysis and these have to be correct before any result is declared and reported. Stages of the DNA analysis are also conducted in different buildings at our premises for added security.

SureScreen Scientifics Ltd is ISO9001 accredited and participate in Natural England's proficiency testing scheme for GCN eDNA testing. We also carry out regular inter-laboratory checks on accuracy of results as part of our quality control procedures.

INTERPRETATION OF RESULTS

SIC:	Sample Integrity Check [Pass/Fail] When samples are received in the laboratory, they are inspected for any tube leakage, suitability of sample (not too much mud or weed etc.) and absence of any factors that could potentially lead to inconclusive results.
DC:	Degradation Check [Pass/Fail] Analysis of the spiked DNA marker to see if there has been degradation of the kit or sample between the date it was made to the date of analysis. Degradation of the spiked DNA marker may lead indicate a risk of false negative results.
IC:	Inhibition Check [Pass/Fail] The presence of inhibitors within a sample are assessed using a DNA marker. If inhibition is detected, samples are purified and re-analysed. Inhibitors cannot always be removed, if the inhibition check fails, the sample should be re-collected.
Result:	Presence of GCN eDNA [Positive/Negative/Inconclusive] Positive: GCN DNA was identified within the sample, indicative of GCN presence within the sampling location at the time the sample was taken or within the recent past at the sampling location. Positive Replicates: Number of positive qPCR replicates out of a series of 12. If one or more of these are found to be positive the pond is declared positive for GCN presence. It may be assumed that small fractions of positive analyses suggest low level presence, but this cannot currently be used for population studies. In accordance with Natural England protocol, even a score of 1/12 is declared positive. 0/12 indicates negative GCN presence. Negative: GCN eDNA was not detected or is below the threshold detection level and the test result should be considered as evidence of GCN absence, however, does not exclude the potential for GCN presence below the limit of detection.



Appendix 10: eDNA Survey Results

Folio No: 2717-2026
Purchase Order: P2899
Contact: Acer Ecology
Issue Date: 02.07.2026
Received Date: 18.06.2026



GCN eDNA Analysis

Summary

When great crested newts (GCN), *Triturus cristatus*, inhabit a pond, they continuously release small amounts of their DNA into the environment. By collecting and analyzing water samples, we can detect these small traces of environmental DNA (eDNA) to confirm GCN habitation or establish GCN absence.

Results

Lab ID	Site Name	OS Reference	Degradation Check	Inhibition Check	Result	Positive Replicates
R26-01138	Llanwern Steel Works - Reen	ST 36297 85955	Pass	Pass	Negative	0/12
R26-01139	Llanwern Steel Works - Waterbody	ST 36297 85955	Pass	Pass	Negative	0/12

Matters affecting result: none

Reported by: Ruby Fielding

Approved by: Lauryn Jewkes

SureScreen Scientifics Ltd, Morley Retreat, Church Lane, Morley, Derbyshire, DE7 6DE, UK
+44 (0)1332 292003 | scientific@surecreen.com | surecreenscientifics.com

Appendix 11: Surveyor Experience

B3:

Survey 1:

Megan Davies - Megan graduated with a BSc in Marine Geography from Cardiff University and is working as an assistant ecologist at Acer Ecology.

Tom Barlow – Tom is a student at the University of West England studying Wildlife and Conservation Science. He is currently undertaking an internship at Acer Ecology and assisting on dusk emergence surveys.

Rebecca Morris - Rebecca is currently working with Acer Ecology undertaking dusk emergence surveys.

Survey 2:

Jack Martin – Jack graduated with a BSc in Zoology and an MSc in Wetland Science and Conservation from Bangor University and is currently working as an Consultant Ecologist at Acer Ecology. Further details of his qualifications and experience can be found at <https://www.linkedin.com/in/jack-martin>

James Taylor – James holds a BSc in Computer Software Engineering, is a GVC-qualified drone pilot, and is the director of Geospace Mapping Ltd. He is in his first season of bat surveying with Acer Ecology.

Hannah Taw – Hannah is currently working with Acer Ecology undertaking dusk emergence surveys.

B4:

Survey 1:

Ellis Cleland - Ellis holds a BSc (Hons) in Wildlife Ecology and Conservation Science and is currently working as an Assistant Ecologist with Acer Ecology.

Megan Davies – As above.

Ela Thomas – Ela is studying for a BSc in Geography at Aberystwyth University. She is currently working as an Assistant Ecologist at Acer Ecology, undertaking a range of ecological surveys and assisting with report writing and data collection.

Tom Barlow – As above.

Survey 2:

Jack Martin – As Above.

James Taylor – As Above.

Finlay Ryder - Finlay graduated from Cardiff University with a MPhil in Biosciences. He is currently in his third season of dusk emergence surveys.

Cerys Roach - Cerys is currently in her second year studying Geography at Bristol University. She is currently working as an Assistant Ecologist at Acer Ecology.

B5:

Survey 1:

Ellis Cleland – As above.

Ela Thomas – As above.

Hannah Taw – As above.

Rebecca Morris – As above.

Survey 2:

Megan Davies – As above.

James Taylor – As above.

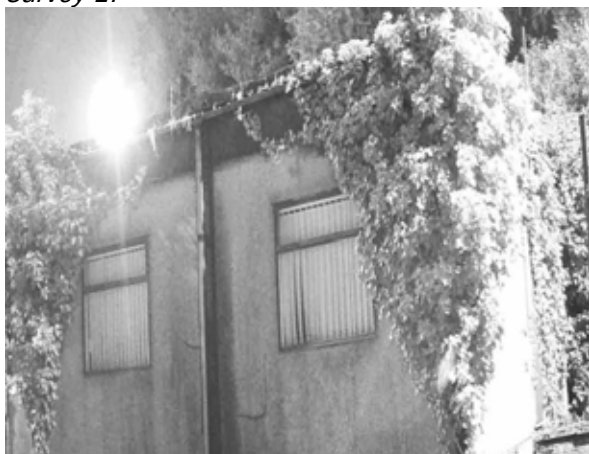
Finlay Ryder – As above.

Hannah Taw – As above.

Appendix 15: Darkest Point of the Survey

B3

Survey 1:

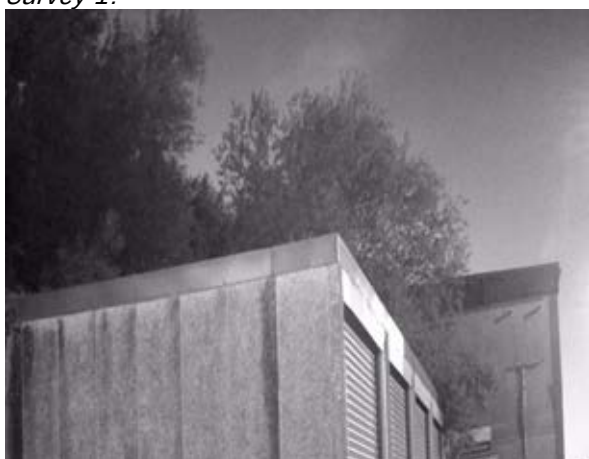


Survey 2:

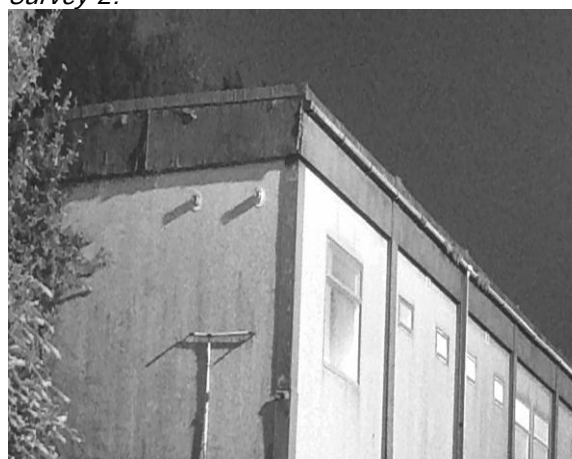


B4

Survey 1:



Survey 2:



B5

Survey 1:



Survey 2:

