



Preliminary Ecological Appraisal Survey

Wrexham Industrial Estate, Wrexham, Clwyd, LL13 9XS

Marcus Rigby

Status	Issue	Name	Date
Draft	1	Charlotte Hammond BSc (Hons) MSc ACIEEM AMIEnvSc GradiEMA - Senior	20/09/18
Reviewed	1.1	Chris Formaggia BSc (Joint Hons) CBiol CEnv MCIEEM MRBS VR - Company Principal	22/09/18
Draft – awaiting BRD	1.2	Charlotte Hammond BSc (Hons) MSc ACIEEM AMIEnvSc GradiEMA - Senior	24/09/18
Final – BRD added	2		

Arbtech Consultant's Contact details:

Charlotte Hammond BSc (Hons) MSc ACIEEM AMIEnvSc GradiEMA
Senior Consultant

Tel: 07525591034 **Email:** charlottehammond@arbtech.co.uk

Arbtech Consulting Ltd
<https://arbtech.co.uk>

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Guidelines

This assessment has been designed to meet:

- Chartered Institute of Ecology and Environmental Management 'Guidelines for Preliminary Ecological Appraisal' (2013); and
- British Standard 42020 (2013) 'Biodiversity – Code of Practice for Planning and Development'.

Proportionality

The work involved in preparing and implementing all ecological surveys, impact assessments and measures for avoidance, mitigation, compensation and enhancement should be proportionate to the predicted degree of risk to biodiversity and to the nature and scale of the proposed development. Consequently, the decision-maker should only request supporting information and conservation measures that are relevant, necessary and material to the application in question. Similarly, the decision-maker and their consultees should ensure that any comments and advice made over an application are also proportionate.

This approach is enshrined in Government planning guidance, for example, paragraph 193 of the National Planning Policy Framework for England.

The desk studies and field surveys undertaken to provide a preliminary ecological appraisal (PEA) might in some cases be all that is necessary.

(BS 42020, 2013)

In consequence of the scale and intensity of the proposed development, the low impact on ecological receptors identified through both the site survey and search of local biological records, and the passive interface with the mitigation hierarchy, this plan-led report is considered adequate and proportionate. It communicates all relevant information necessary to determine a planning application or support the recommendations for further surveys.

Executive summary

Arbtech Consulting Ltd. undertook a Preliminary Ecological Appraisal at Wrexham Industrial Estate, Wrexham, Clwyd, LL13 9XS on 19th September 2018. The aim of the survey was to complete an Extended Phase 1 Habitat Survey of the survey area (all land that will be impacted by the proposals).

The development proposals are for the construction of industrial units on the site. A planning application has been submitted to Wrexham County Borough Council.

Recommendations - This is work you will need to commission (if any) to obtain planning permission or comply with legislation for other consent.

The following table will be amended upon receipt of the BRD

Ecological Factor	Survey assessment conclusions (with justification)	Foreseen impacts	Recommendations	Enhancements The Local Planning Authority has a duty to ask for enhancements under the NPPF and circular 06/2005: Biodiversity and Geological Conservation. Para.99
Designated sites	The site is not subject to any designation, and there are no designated sites nearby with the potential to be affected by the proposed development.	The proposed development is not of a sufficient scale to have an impact on any nearby designated sites.	No further surveys.	N/A
Notable habitats and plants	There are no ancient woodland or Priority habitats close to the site, within the zone of	No impacts.	No further surveys.	A wildflower meadow area should be incorporated into the landscaping of the developed site. Hedgerows should be retained around the site boundaries.

	influence of the proposed works.			
Invasive / Non-native species	No invasive and non-native species recorded on site.	N/A	No further surveys.	N/A
Bats	The site has potential to support foraging bats.	Foraging habitat suitable for bats will be lost.	Planting should include night scented species, such as honeysuckle, ivy and jasmine. Lighting of the site must be in accordance with the Bat Conservation Trust bats and lighting publication released in conjunction with ILP September 2018.	The installation of a minimum of two Schwegler bat boxes on mature trees around the site boundaries will provide additional roosting habitat for bats e.g. 2F Schwegler Bat Box, 1FF Schwegler Bat Box, 2FN Schwegler Bat Box, 1FR Schwegler Bat, Tube / "Habibat" Bat Box inserted into the fabric of the new building during construction. Bat boxes should be positioned 3-5m above ground level facing in a south/south-westerly direction with a clear flight path to and from the entrance. Bat tubes should be positioned high on the building, close to the eaves, away from windows and other artificial light sources.

Birds	No evidence of nesting birds was found during the survey; however, birds could use the vegetation on site for nesting.	Suitable habitat, including the majority of the trees on the site boundaries, will be removed from the site, reducing breeding resources in the local area.	Any tree and scrub removal should be undertaken outside the period 1st March to 31st August. If this timeframe cannot be avoided, a close inspection of the trees and scrub to be removed should be undertaken immediately prior to clearance. All active nests will need to be retained until the young have fledged.	Install three Schwegler bird boxes on retained trees/buildings on site e.g. Schwegler No 17 swift nest box Schwegler 1SP Sparrow Terrace Schwegler 1B nest boxes Schwegler 2H Robin Boxes Nest boxes should be positioned approximately 3m above ground level where they will be sheltered from prevailing wind, rain and strong sunlight. Small-hole boxes are best placed approximately 1-3m above ground on an area of the tree trunk where foliage will not obscure the entrance hole.
Reptiles	The site provides a small area of reptile habitat. The BRD has not been obtained so likely-presence in the local area is not known.	The proposed development will result in the loss of habitat for common reptiles. Any reptiles present during the works could be injured or killed.	Due to the small area of suitable habitat on site. To minimise the risk of killing or injuring herpetofauna, site clearance works will be carried out under a precautionary method of working. The development area should be kept largely clear of vegetation in order to make it unattractive to herpetofauna. This clearance should be to ground level and be carried out in two stages, the latest stage undertaken at least 2 days prior to topsoil removal or other works to allow any reptiles present to move away. The first cut should be at about 15cm from the ground (the current state of the site) and the second (between 1 and 3 days	Waste materials created during the development e.g. log piles, brash, rocks etc. Can be used to create hibernacula and refugia for common reptiles. These should be positioned on the site boundaries below any retained existing hedgerow.

			later) close to the ground, thereby preventing injury to herpetofauna species during clearance. The vegetation should then be maintained at a very short level (less than 5 cm) even if there are delays in development. Likewise, compost heaps or vegetation, log or rubble piles should be moved by hand prior to commencement of any work. A buffer around the boundaries and herpetofauna fencing to ensure any herpetofauna are restricted from accessing the site during development is recommended.	
Amphibians	The site contains suitable terrestrial habitat for amphibian foraging, commuting, and refuge. There are 7 ponds within 500m of the site, one of these is within 250m of the site.	The proposed development will result in the loss of habitat for common amphibians. Any amphibians present during the works could be injured or killed.	A precautionary method of working is considered adequate to reduce the small risk of harm or injury to Great Crested Newts (GCN) during development, all clearance of scrub will take place when the GCN are found in their aquatic habitat and not in terrestrial habitat (core breeding season: March-May inclusive). In addition to altering the timing of the works to reduce the low risk of harm to GCN, the scrub clearance will be supervised by a licensed ecologist. This will include the clearing of any log piles and refugia that may be used by amphibians and the checking of vegetation for active bird's nests. In addition, all trenches will be backfilled before nightfall, or a ramp will be left to allow newts to easily exit. Any	Waste materials created during the development e.g. log piles, brash, rocks etc. Can be used to create hibernacula and refugia for amphibians. These should be positioned on the site boundaries below any retained existing hedgerow.

			stored materials (that might act as temporary resting places) will be raised off the ground, e.g. on pallets. If a GCN is found during the development all work must immediately cease and a licensed ecologist must be sought.	
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Other Terrestrial Mammals	Badgers Suitable foraging habitat for badgers found on site. Water Vole & Otter No suitable habitat.	Badgers No impacts on any badger setts however precautionary approach to work should be implemented. Water Vole & Otter The proposed development will have no impact on water voles or otters.	Badgers No further surveys are required. However, the following recommendations are given in order to mitigate against potential harm to badgers during the development works. • Any trenches dug should either be covered at night or have a rough sawn plank placed in them to act as a ramp for any wildlife which may fall in. • Security lighting to be directed away from the undergrowth. • Any chemicals or pollutants used or created by the development should be stored and disposed of correctly according to COSHH regulations. Water Vole & Otter No further surveys.	Badgers Planting fruit trees on the developed site will provide additional foraging resources for badgers. Water Vole & Otter Measures to avoid accidental pollution of the water course should be implements (COSHH).
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For full justification of these recommendations, please go straight to section [4.0 Conclusions, Impacts and Recommendations](#). Otherwise, the full report starts below.

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1.0 Introduction and Context

1.1 Background

Arbtech Consulting Ltd was commissioned by Marcus Rigby to undertake a Preliminary Ecological Appraisal (PEA) at Wrexham Industrial Estate, Wrexham, Clwyd, LL13 9XS. An extended Phase 1 Habitat Survey of the survey area (all land that will be impacted by the proposals).

No previous reports have been produced for this site by Arbtech Consulting Ltd.

1.2 Site Context

The site is located at National Grid Reference SJ 3700 4888 and comprises an area of approximately 0.4ha. The site consists of tall ruderal with scattered trees and hedgerows a drainage ditch runs along the eastern boundary of the site.

1.3 Scope of the report

This report describes the baseline ecological conditions at the site; evaluates habitats within the survey area in the context of the wider environment; and describes the suitability of those habitats for notable or protected species. It identifies significant ecological impacts as a result of the development proposals; summarises the requirements for further surveys and mitigation measures, to inform subsequent mitigation proposals, achieve Planning or other statutory consent, and to comply with wildlife legislation.

The aim of the PEA was to obtain data on existing ecological conditions, and to conduct a preliminary assessment of the likely significance of ecological impacts on the proposed development. Establishing the baseline conditions for future monitoring. To achieve this, the following steps were taken:

- The desk study area and field survey area (generally 50m from the site boundary/proposed footprint and including the 'zone of influence' of the scheme) have been identified
- A desk study has been carried out, a request for information should be submitted to Cofnod
- Baseline information on the site and surrounding area has been recorded through an 'Extended Phase 1 Habitat Survey', including a Phase 1 Habitat Survey (JNCC 2010) and recording further details in relation to notable or protected habitats and species
- The ecological features present within the survey area have been evaluated where possible (CIEEM, 2006)
- Invasive plant and animal species (such as those listed on Schedule 9 of the Wildlife & Countryside Act [WCA]) have been identified
- Likely impacts on features of value, as a result of the development proposals, have been identified
- Recommendations for further survey and assessment have been made

- Recommendations for mitigation and opportunities for enhancement have been provided based on current information

A survey plan is presented in Appendix 1, the proposed Project Plan is included in Appendix 2 (where available), desk study results are provided in Appendix 3, and a summary of relevant legislation can be found in Appendix 4.

1.4 Project Description

This report is prepared in support of a planning application that has been submitted to Wrexham County Borough Council.

The proposed development is described as: the construction of industrial units on the site.

The proposed site plan is included in Appendix 2 (where available).

2.0 Methodology

2.1 Desk Study methodology

Existing biological records data relating to the site and a surrounding 2km radius (the study area) are required to conform with national guidelines and these will need to be requested from Cofnod. The data search is confidential information that is not suitable for public release.

A review of the following information sources has also been undertaken to inform the assessment:

- Landscape structure using aerial images from Google Earth and OS maps
- Designated sites, habitat and granted EPSL records held on Magic.gov.uk.

2.2 Site Survey methodology

The survey was undertaken by Charlotte Hammond on 19th September 2018.

The methodology for the Phase 1 habitat survey is based on the best practice publication Phase 1 Habitat Survey Methodology (JNCC, 2010). All land parcels are described and mapped according to JNCC Phase 1 habitat classification (see site map in Appendix 1). Where appropriate, target notes provide supplementary information on habitat conditions, features too small to map to scale, species composition, structure and management.

During the survey, habitats were assessed for their suitability to support protected species, and field signs indicating their presence recorded. The assessment takes into consideration the findings of the desk study, the habitat conditions on site and in the context of the surrounding landscape, and the ecology of the protected species. The likelihood of the presence of protected species is ranked; the habitats on site are evaluated against their likelihood to provide suitable habitat for protected species.

The ecological value of the survey area has been assessed based on the Guidelines for Ecological Impact Assessment (CIEEM, 2006), and the Handbook of Biodiversity Methods: Survey, Evaluation and Monitoring (David Hill, 2005), using geographic frames of reference. The biodiversity value of any identified designated sites, habitat types and associated species assemblages has been considered. The distribution and extent of invasive species listed on Schedule 9 of the Wildlife and Countryside Act (1981) were also noted throughout the survey area.

2.3 Suitability Assessment

The likelihood of occurrence of protected species is ranked according to the criteria listed in Table 1. The habitats on site were evaluated as to their likelihood to provide sheltering, roosting, foraging, basking or nesting habitat.

Table 1: showing criteria considered when assessing the likelihood of occurrence of protected species

Present	Species are confirmed as present from the current survey or historical confirmed records.
High	Habitat and features of high quality for species/species assemblage. Species known to be present in wider landscape (desk study records). Good quality surrounding habitat and good connectivity.
Medium	Habitat and features of moderate quality. The site in combination with surrounding land provides all habitat/ecological conditions required by the species/assemblage. Within known national distribution of species and local records in desk study area. Limiting factors to suitability, including small area of suitable habitat, some severance/poor connectivity with wider landscape, poor to moderate habitat suitability in local area.
Low	Habitats within the survey area poor quality. Few or no records from data search. Despite above, presence cannot be discounted as within national range, all required features/conditions present on site and in surrounding landscape. Limiting factors could include isolation, poor quality landscape, or disturbance.
Negligible	Very limited poor-quality habitats and features. No local records from desk study; site on edge of, or outside, national range. Surrounding habitats considered unlikely to support species/species assemblage.

2.4 Limitations – evaluation of the methodology

It should be noted that whilst every effort has been made to describe the baseline conditions within the survey area, and evaluate these features, this report does not provide a complete characterisation of the site. This assessment provides a preliminary view of the likelihood of protected species being present. This is based on suitability of the habitats on the site and in the wider landscape, the ecology and biology of species as currently understood, and the known distribution of species as recovered during the searches of historical biological records.

The survey was completed during the sub-optimal survey period limiting the identification of ground flora species, however, due to the habitat present (tall ruderal) it is not thought that any species of note have been missed due to the timing of the survey. No biological records data search has been authorised by the client.

3.0 Results and Evaluation

3.1 Desk Study Results

A summary of desk study results is provided below; full details are included in Appendix 3.

3.2 Designated sites

There are no statutory designated sites and no known non-statutory sites within the study area.

Table 2: Designated sites within 2km radius of the site

Designated Site Name	Distance from Site (approx.)	Reasons for Notification from Natural England and/or BRD or LPA policy maps
Statutory Sites		
None	N/A	N/A
Non-statutory Sites		
To be determined	N/A	N/A

3.3 Landscape

A review of the designated sites, aerial photographs (Figure 1), the Magic database and OS maps has been undertaken. Collated together, the site's local habitat is described below:

The site is on the boundary of the Wrexham Industrial Estate. The landscape is dominated by large arable fields extending adjacent to the west. The industrial estate extends from the site to the north and east. There are small, scattered woodland copses, hedgerows and tree lines around the area, creating connectivity to the site, which could be used for foraging and commuting. Priority habitats within 2km of the site are listed in Table 3.

Table 3: Priority Habitat Inventory within 2km (Magic.gov.uk):

Habitat	Closest distance from site
National Forest Inventory woodland - Broadleaved	66m east

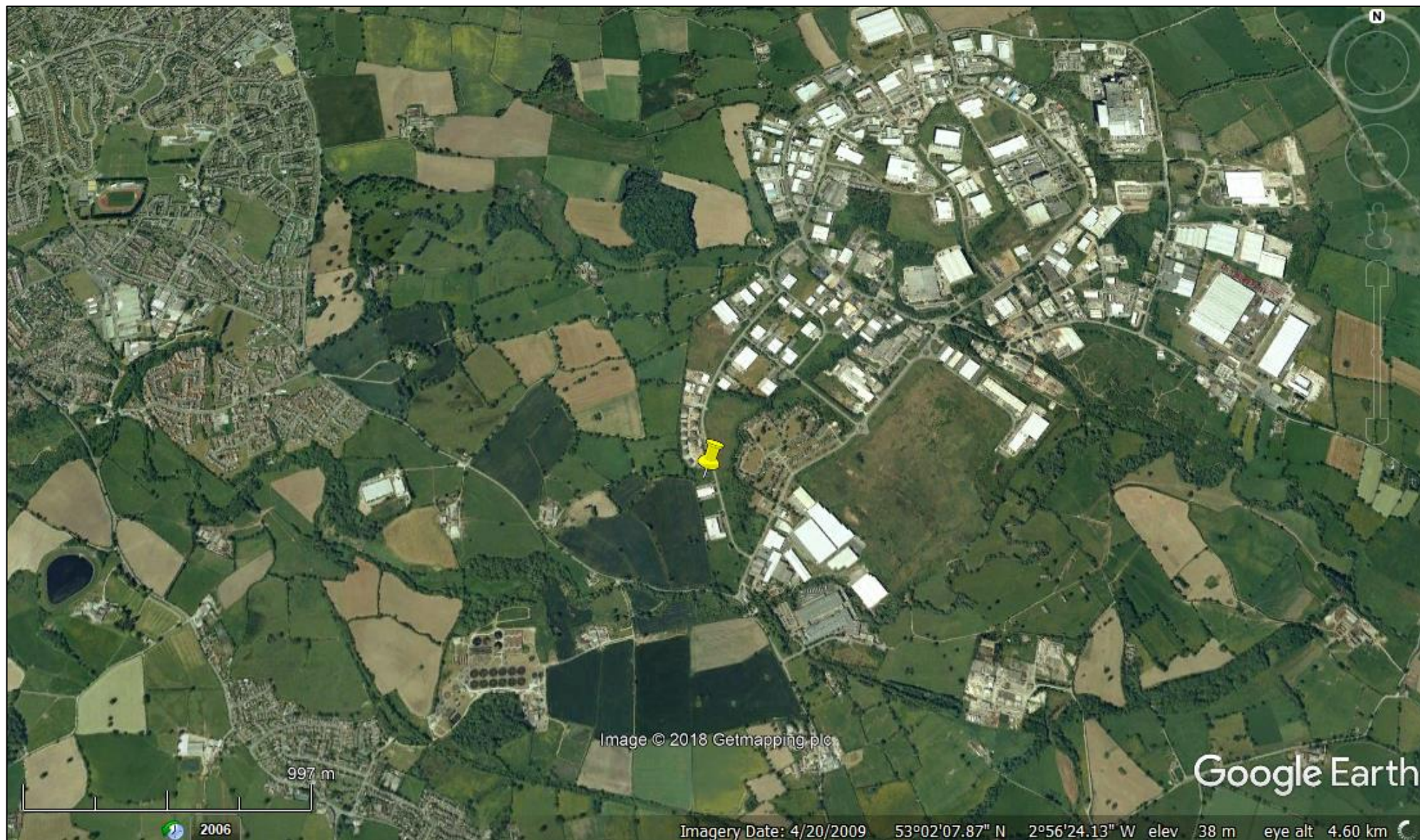


Figure 1: Aerial photo of site, showing landscape structure

3.4 Historical records

Cofnod will need to be commissioned to provide biological records data for a 2km radius of the site. These can be provided on request and will be summarised in Table 4 upon receipt.

Table 4: Historical records within 2km of the site

Taxon Group	Common name	Scientific binomial	Record details
Awaiting BRD			

A search of the magic database for granted European Protected Species Mitigation Licences (EPSMLs) within a 2km radius found no licenced sites and details are provided in Table 5 below.

Table 5: Granted EPSMLs within 2km of the site

Case reference of granted application	Approx. distance from site	Species Affected	Licence Start Date:	Licence End Date:	Impacts allowed by licence

3.5 Field Survey Results

The site of the proposed development is an area of tall ruderal with scattered trees and hedgerows a drainage ditch runs along the eastern boundary of the site and is illustrated in the map in Appendix 1. The environmental variables recorded at the time of the survey are shown in Table 6.

Table 6: Environmental variables during the survey

Date: 19/09/2018	
Temperature	14°C
Humidity	68%
Cloud Cover	100%
Wind	4km/h
Rain	None

3.6 Site Feature descriptions and photos

Tall Ruderal

The site is dominated by tall ruderal habitat, the main species present across the site are willowherb *Epilobium* and broadleaf dock *Rumex obtusifolius*. Along the southern boundary in the south west corner there was also an area of bramble *Rubus fruticosus* encroaching over the tall ruderal.



Hedgerow

The hedgerows on site form some of the boundaries, pictured is the hedgerow, which is overgrown, in the south west of the site. This extends along the western boundary of the site, with a gated entrance to the neighbouring field. The hedgerows on site provide suitable habitat for breeding birds.



There is an area of hawthorn *Crataegus monogyna* hedge along the northern boundary of the site. This is also overgrown and there are some immature trees and shrubs present within it.



Ditch

Drainage ditches are present throughout the industrial estate, the neighbouring site's drainage ditch is open and clear with no vegetation and is surrounded by mown amenity grassland on the slopes of the ditch.

The drainage ditch present on the eastern boundary of the site has no emergent vegetation in the water. The slopes of the ditch are covered in vegetation including bramble which is shading the ditch.



Immature willow *Salix* sp. trees line the top of the western slope of the ditch.



Scattered Trees

Scattered broadleaf trees are present along the northern and western boundaries of the site. Some like that pictured opposite are immature and would support small birds nesting.



The scattered trees on site are no bigger than the ash *Fraxinus excelsior* pictured opposite. The trees on site are relatively immature and offer limited potential for breeding birds, as they would only be suitable for smaller bird species. There are no potential roost features suitable for bats present on the trees on site.



4.0 Conclusions, Impacts and Recommendations

4.1 Informative guidelines

Likelihood of the presence of protected species

The habitats on site were evaluated as to their likelihood to provide sheltering, roosting, foraging, basking or nesting habitat. The likelihood of occupancy of protected species is ranked according to the criteria listed in Table 1.

Where this report supports a planning application, the ecological interest of the study area (including the survey area) and the proposed development has also been evaluated in terms of the planning policies relating to biodiversity. It will be clearly stated where a preliminary value can be given and where further information is required.

Appropriate justification for this assessment is provided in Section 2.3 and Table 1 of this report.

4.2 Evaluation

Taking the desk study and site survey results into account, the following conclusions for ecological factors has been reached.

Table 7: Evaluation of site

Ecological Factor	Survey assessment conclusions (with justification)	Foreseen impacts	Recommendations	Enhancements The Local Planning Authority has a duty to ask for enhancements under the NPPF and circular 06/2005: Biodiversity and Geological Conservation. Para.99
Designated sites	The site is not subject to any designation, and there are no designated sites nearby with the potential to be affected by the proposed development.	The proposed development is not of a sufficient scale to have an impact on any nearby designated sites.	No further surveys.	N/A
Notable habitats and plants	There are no ancient woodland or Priority habitats close to the site, within the zone of influence of the proposed works.	No impacts.	No further surveys.	A wildflower meadow area should be incorporated into the landscaping of the developed site. Hedgerows should be retained around the site boundaries.
Invasive / Non-native species	No invasive and non-native species recorded on site.	N/A	No further surveys.	N/A

Bats	The site has potential to support foraging bats.	Foraging habitat suitable for bats will be lost.	Planting should include night scented species, such as honeysuckle, ivy and jasmine. Lighting of the site must be in accordance with the Bat Conservation Trust bats and lighting publication.	The installation of a minimum of two Schwegler bat boxes on mature trees around the site boundaries will provide additional roosting habitat for bats e.g. 2F Schwegler Bat Box, 1FF Schwegler Bat Box, 2FN Schwegler Bat Box, 1FR Schwegler Bat, Tube / Habibat Bat Box inserted into the fabric of the new building during construction. Bat boxes should be positioned 3-5m above ground level facing in a south/south-westerly direction with a clear flight path to and from the entrance. Bat tubes should be positioned high on the building, close to the eaves, away from windows and other artificial light sources.
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Birds	No evidence of nesting birds was found during the survey; however, birds could use the vegetation on site for nesting.	Suitable habitat, including the majority of the trees on the site boundaries, will be removed from the site, reducing breeding resources in the local area.	Any tree and scrub removal should be undertaken outside the period 1st March to 31st August. If this timeframe cannot be avoided, a close inspection of the trees and scrub to be removed should be undertaken immediately prior to clearance. All active nests will need to be retained until the young have fledged.	Install three Schwegler bird boxes on retained trees/buildings on site e.g. Schwegler No 17 swift nest box Schwegler 1SP Sparrow Terrace Schwegler 1B nest boxes Schwegler 2H Robin Boxes Nest boxes should be positioned approximately 3m above ground level where they will be sheltered from prevailing wind, rain and strong sunlight. Small-hole boxes are best placed approximately 1-3m above ground on an area of the tree trunk where foliage will not obscure the entrance hole.
Reptiles	The site provides a small area of reptile habitat. The BRD has not been obtained so likely-presence in the local area is not known.	The proposed development will result in the loss of habitat for common reptiles. Any reptiles present during the works could be injured or killed.	Due to the small area of suitable habitat on site. To minimise the risk of killing or injuring herpetofauna, site clearance works will be carried out under a precautionary method of working. The development area should be kept largely clear of vegetation in order to make it unattractive to herpetofauna. This clearance should be to ground level and be carried out in two stages, the latest stage undertaken at least 2 days prior to topsoil removal or other works to allow any reptiles present to move away. The first cut should be at about 15cm from the ground (the current state of the site) and the second (between 1 and 3 days	Waste materials created during the development e.g. log piles, brash, rocks etc. Can be used to create hibernacula and refugia for common reptiles. These should be positioned on the site boundaries below any retained existing hedgerow.

			later) close to the ground, thereby preventing injury to herpetofauna species during clearance. The vegetation should then be maintained at a very short level (less than 5 cm) even if there are delays in development. Likewise, compost heaps or vegetation, log or rubble piles should be moved by hand prior to commencement of any work. A buffer around the boundaries and herpetofauna fencing to ensure any herpetofauna are restricted from accessing the site during development is recommended.	
Amphibians	The site contains suitable terrestrial habitat for amphibian foraging, commuting, and refuge. There are 7 ponds within 500m of the site, one of these is within 250m of the site.	The proposed development will result in the loss of habitat for common amphibians. Any amphibians present during the works could be injured or killed.	A precautionary method of working is considered adequate to reduce the small risk of harm or injury to Great Crested Newts (GCN) during development, all clearance of scrub will take place when the GCN are found in their aquatic habitat and not in terrestrial habitat (core breeding season: March-May inclusive). In addition to altering the timing of the works to reduce the low risk of harm to GCN, the scrub clearance will be supervised by a licensed ecologist. This will include the clearing of any log piles and refugia that may be used by amphibians and the checking of vegetation for active bird's nests. In addition, all trenches will be backfilled before nightfall, or a ramp will be left to allow newts to easily exit. Any	Waste materials created during the development e.g. log piles, brash, rocks etc. Can be used to create hibernacula and refugia for amphibians. These should be positioned on the site boundaries below any retained existing hedgerow.

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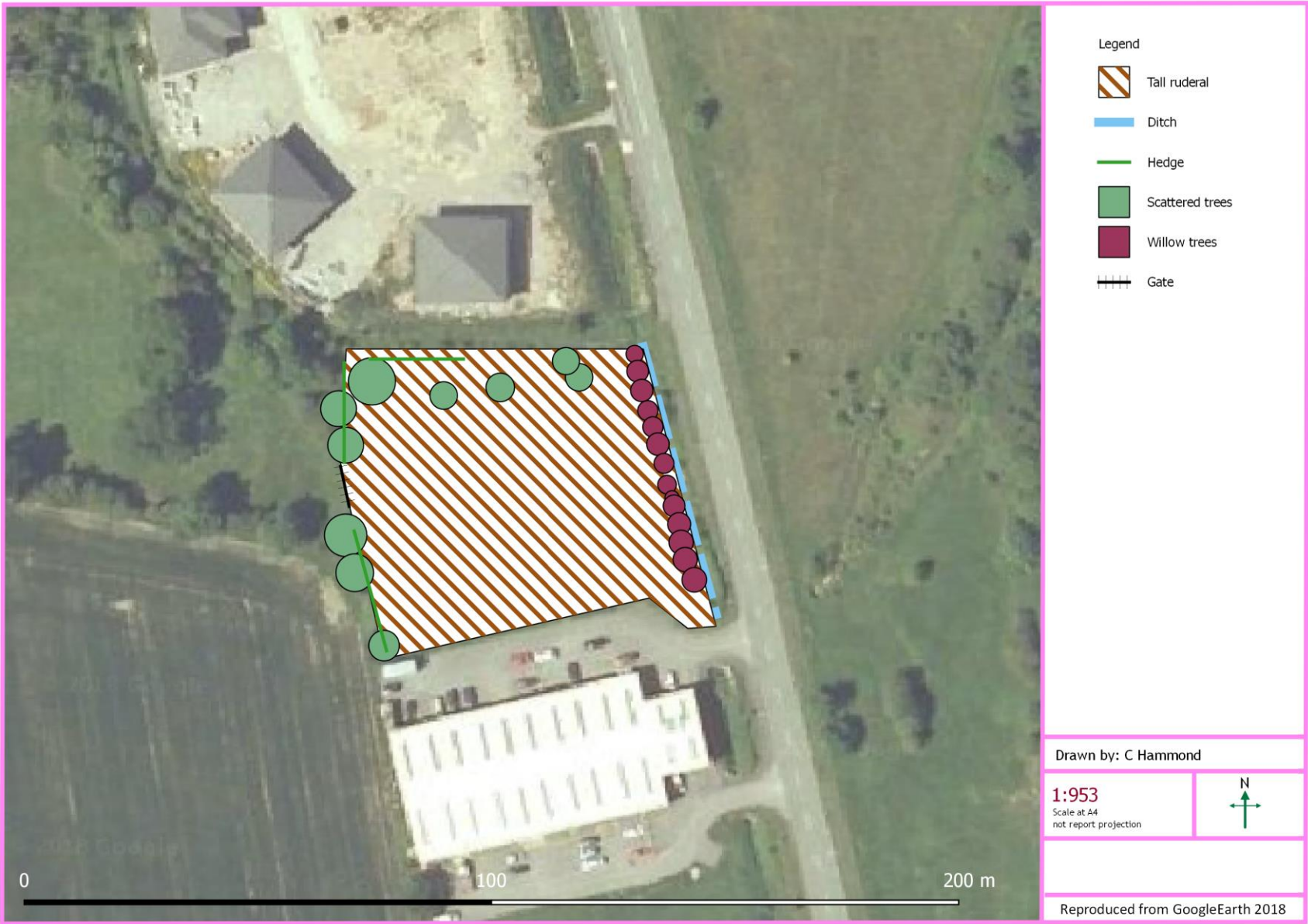
Other Terrestrial Mammals	Badgers Suitable foraging habitat for badgers found on site. Water Vole & Otter No suitable habitat.	Badgers No impacts on any badger setts however precautionary approach to work should be implemented. Water Vole & Otter The proposed development will have no impact on water voles or otters.	Badgers No further surveys are required. However, the following recommendations are given in order to mitigate against potential harm to badgers during the development works. • Any trenches dug should either be covered at night or have a rough sawn plank placed in them to act as a ramp for any wildlife which may fall in. • Security lighting to be directed away from the undergrowth. • Any chemicals or pollutants used or created by the development should be stored and disposed of correctly according to COSHH regulations. Water Vole & Otter No further surveys.	Badgers Planting fruit trees on the developed site will provide additional foraging resources for badgers. Water Vole & Otter Measures to avoid accidental pollution of the water course should be implements (COSHH).
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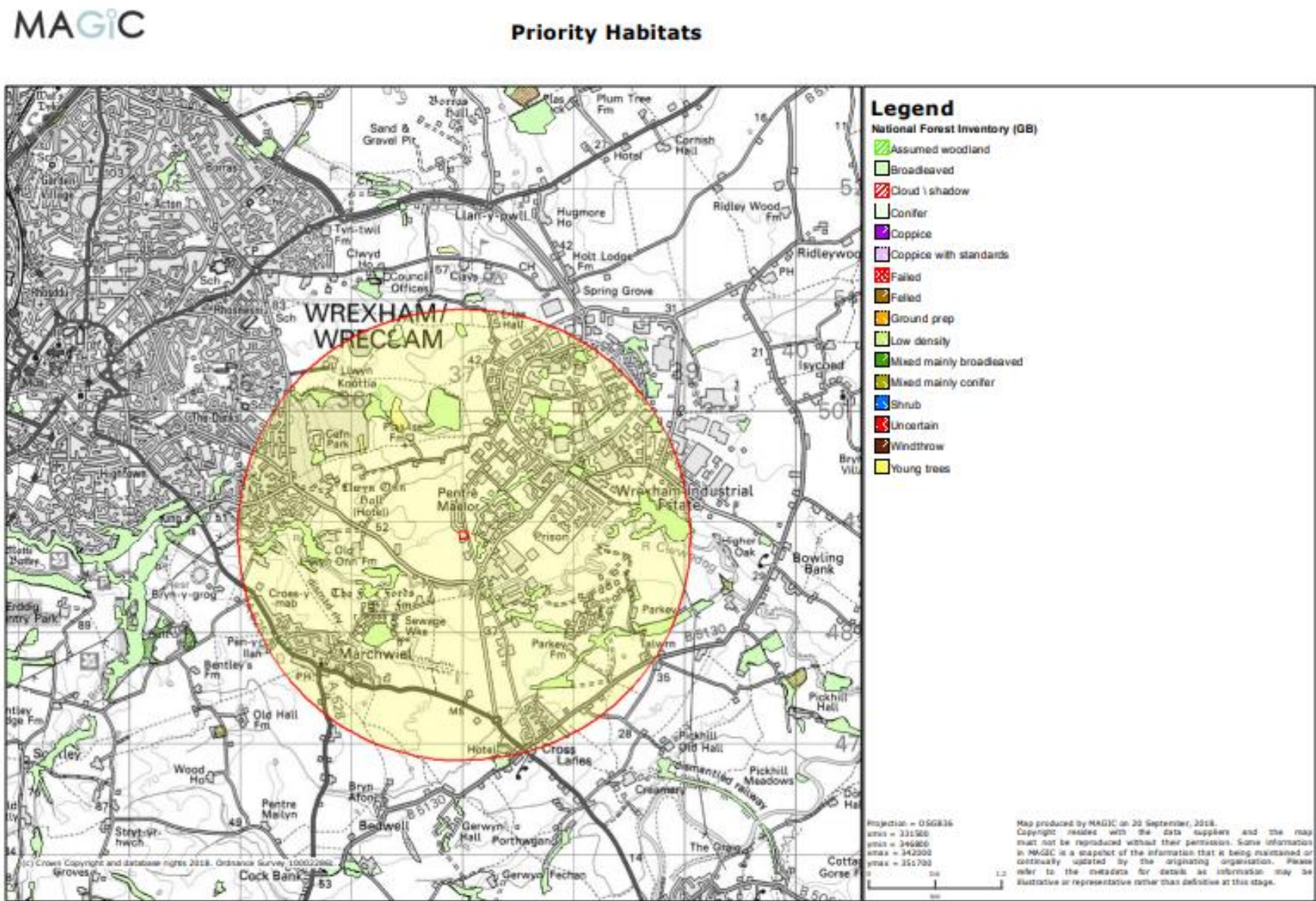
Appendix 1: Phase 1 Habitat Survey Map



Appendix 2: Proposed Site Plan

Not yet provided by the client.

Appendix 3: Desk Study Information



Appendix 4: Legislation and Planning Policy

LEGAL PROTECTION

National and European Legislation Afforded to Habitats

International Statutory Designations

Special Areas of Conservation (SACs) and Special Protection Areas (SPAs) are sites of European importance and are designated under the EC Habitats Directive 92/43/EEC on the Conservation of natural habitats and of wild fauna and flora (the Habitats Directive) and the EC Birds Directive 2009/147/EC on the conservation of wild birds respectively. Both form part of the wider Natura 2000 network across Europe.

Under the Habitats Directive the, Article 3 requires the establishment of a network of important conservation sites (SACs) across Europe in order to conserve the 189 habitats and 788 species (non- bird) identified in Annexes I and II of the Directive (as amended).

SPAs are classified under Article 2 of the EC Birds Directive both for rare bird species (as listed on Annex I) and for important migratory species.

SACs and SPAs up to 12 nautical miles (nm) from the coast are afforded protection in the UK under the Conservation of Habitats and Species Regulations 2010 which consolidate all amendments made to the Conservation (Natural Habitats, &c.) Regulations 1994. In Scotland, the requirements of Habitats Directive are implemented through a combination of the 1994 and the 2010 (reserved matters) Regulations. The Offshore Marine Conservation (Natural Habitats, &c.) Regulations 2007 (as amended) provide a means for designating and protecting SACs in UK offshore waters (from 12-200 nm).

Ramsar sites are designated under the Convention on Wetlands of International Importance, agreed in Ramsar, Iran, in 1971. The Convention covers all aspects of wetland conservation and recognises the importance of wetland ecosystems in relation to global biodiversity conservation. The Convention refers to wetlands as “areas of marsh, fen, peatland or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, including areas of marine water the depth of which at low tide does not exceed six metres” however they may also include riparian and coastal zones. Ramsar sites are statutorily protected under the Wildlife & Countryside Act 1981 (as amended) with further protection provided by the Countryside and Rights of Way (CROW) Act 2000. Policy statements have been issued by the Government in England and Wales highlighting the special status of Ramsar sites. The Government in England and Wales has issued policy statements which ensure that Ramsar sites are afforded the same protection as areas designated under the EC Birds and Habitats Directives as part of the Natura 2000 network (e.g. SACs & SPAs).

National Statutory Designations

Sites of Special Scientific Interest (SSSI) are designated by nature conservation agencies in order to conserve key flora, fauna, geological or physio-geographical features within the UK. The original designations were under the National Parks and Access to the Countryside Act 1949 but SSSIs were then re-designated under the Wildlife & Countryside Act 1981 (as amended). As well as reinforcing other national designations (including National Nature Reserves), the system also provides statutory protection for terrestrial and coastal sites which are important within

the European Natura 2000 network and globally. Further provisions for the protection and management of SSSIs have been introduced by the Countryside and Rights of Way Act 2000 (in England and Wales) and the Nature Conservation (Scotland) Act 2004.

Local Statutory Designations

Local authorities in consultation with the relevant nature conservation agency can declare Local Nature Reserves (LNRs) under the National Parks and Access to the Countryside Act 1949. LNRs are designated for flora, fauna or geological interest and are managed locally to retain these features and provide research, education and recreational opportunities.

Non- Statutory Designations

All non-statutorily designated sites are referred to as Local Wildlife Sites (LWS) and can be designated by the local authority for supporting local conservation interest. Combined with statutory designation, these sites are considered within Local Development Frameworks under the Town and Country Planning system and are a material consideration during the determination of planning applications. The protection afforded to these sites varies depending on the local authority involved.

Regionally Important Geological Sites (RIGs) are the most important geological and geomorphological areas outside of statutory designations. These sites are also a material consideration during the determination of planning applications.

The Hedgerow Regulations 1997

The Hedgerow Regulations 1997 are designed to protect 'important' countryside hedgerows. Importance is defined by whether the hedgerow (a) has existed for 30 years or more; or (b) satisfies at least one of the criteria listed in Part II of Schedule 1 of the Regulations.

Under the Regulations, it is against the law to remove or destroy hedgerows on or adjacent to common land, village greens, SSSIs (including all terrestrial SACs, NNRs and SPAs), LNRs, land used for agriculture or forestry and land used for the keeping or breeding of horses, ponies or donkeys without the permission of the local authority. Hedgerows 'within or marking the boundary of the curtilage of a dwelling-house' are excluded.

National and European Legislation Afforded to Species

The Habitats Directive

The EC Habitats Directive aims to promote the maintenance of biodiversity by requiring Member States to take measures to maintain or restore wild species listed on the Annexes to the Directive at a favourable conservation status, introducing robust protection for those species of European importance. The Directive is transposed into UK law by The Conservation of Habitats and Species Regulations 2010 (the Conservation Regulations) and the Offshore Marine Conservation (Natural Habitats, &c.) Regulations 2007 (as amended). The following notes are relevant for all species protected under the EC Habitats Directive:

In the Directive, the term 'deliberate' is interpreted as being somewhat wider than intentional and may be thought of as including an element of recklessness.

The Habitats Regulations do not define the act of ‘migration’ and, therefore, as a precaution, it is recommended that short distance movement of animals for e.g. foraging, breeding or dispersal purposes are also considered.

In order to obtain a European Protected Species Mitigation (EPSM) licence, the application must demonstrate that it meets all of the following three ‘tests’:

the action(s) are necessary for the purpose of preserving public health or safety or other imperative reasons of overriding public interest including those of a social or economic nature and beneficial consequence of primary importance for the environment;

- There is no satisfactory alternative; and
- The action authorised will not be detrimental to the maintenance of the species concerned at a favourable conservation status in their natural range.

The Wildlife and Countryside Act (WCA) 1981 (as amended)

The Wildlife and Countryside Act (WCA) 1981 (as amended) implements the Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention) and implements the species protection requirements of EC Birds Directive 2009/147/EC on the conservation of wild birds in Great Britain (the birds Directive). The WCA 1981 has been subject to a number of amendments, the most important of which are through the Countryside and Rights of Way (CROW) Act (2000) and Nature Conservation (Scotland) Act 2004.

Other legislative Acts affording protection to wildlife and their habitats include:

- Deer Act 1991
- Natural Environment & Rural Communities (NERC) Act 2006
- Protection of Badgers Act 1992
- Wild Mammals (Protection) Act 1996

Badgers

Badgers *Meles meles* are protected under The Protection of Badgers Act which makes it an offence to:

- Wilfully kill, injure, take, or attempt to kill, injure or take a badger
- Cruelly ill-treat a badger, including use of tongs and digging
- Possess or control a dead badger or any part thereof
- Intentionally or recklessly damage, destroy or obstruct access to a badger sett or any part thereof
- Intentionally or recklessly disturb a badger when it is occupying a badger sett
- Intentionally or recklessly cause a dog to enter a badger sett
- Sell or offers for sale, possesses or has under his control, a live badger

Effects on development works:

A development licence will be required from the relevant countryside agency for any development works liable to affect an active badger sett, or to disturb badgers whilst they occupy a sett.

Guidance has been issued by the countryside agency’s to define what would constitute a licensable activity. It is not possible to obtain a licence to translocate badgers.

Birds

With certain exceptions, all birds, their nests and eggs are protected under Sections 1-8 of the WCA. Among other things, this makes it an offence to:

- Intentionally (or recklessly in Scotland) kill, injure or take any wild bird
- Intentionally (or recklessly in Scotland) take, damage or destroy (or, in Scotland, otherwise interfere with) the nest of any wild bird while it is in use or being built
- Intentionally take or destroy an egg of any wild bird
- Sell, offer or expose for sale, have in his possession or transport for the purpose of sale any wild bird (dead or alive) or bird egg or part thereof.
- Intentionally or recklessly obstruct or prevent any wild bird from using its nest (Scotland only)

Certain species of bird, for example the barn owl, bittern and kingfisher receive additional protection under Schedule 1 of the WCA and Annex 1 of the European Community Directive on the Conservation of Wild Birds (2009/147/EC) and are commonly referred to as “Schedule 1” birds.

This affords them protection against:

- Intentional or reckless disturbance while it is building a nest or is in, on or near a nest containing eggs or young
- Intentional or reckless disturbance of dependent young of such a bird
- In Scotland only, intentional or reckless disturbance whilst lekking
- In Scotland only, intentional or reckless harassment

Effects on development works:

Works should be planned to avoid the possibility of killing or injuring any wild bird, or damaging or destroying their nests. The most effective way to reduce the likelihood of nest destruction in particular is to undertake work outside the main bird nesting season which typically runs from March to August. Where this is not feasible, it will be necessary to have any areas of suitable habitat thoroughly checked for nests prior to vegetation clearance.

Schedule 1 birds are additionally protected against disturbance during the nesting season. Thus, it will be necessary to ensure that no potentially disturbing works are undertaken in the vicinity of the nest. The most effective way to avoid disturbance is to postpone works until the young have fledged. If this is not feasible, it may be possible to maintain an appropriate buffer zone or standoff around the nest.

Herpetofauna (Amphibians and reptiles)

The sand lizard *Lacerta agilis*, smooth snake *Coronella austriaca*, natterjack toad *Epidalea calamita*, pool frog *Pelophylax lessonae* and great crested newt *Triturus cristatus* receive full protection under Habitats Regulations through their inclusion on Schedule 2. Regulation 41 prohibits:

- Deliberate killing, injuring or capturing of Schedule 2 species
- Deliberate disturbance of species in such a way as:
 - To impair their ability to survive, breed, or reproduce, or to rear or nurture young;
 - To impair their ability to hibernate or migrate

- To affect significantly the local distribution or abundance of the species
- Damage or destruction of a breeding site or resting place

With the exception of the pool frog, these species are also listed on Schedule 5 of the WCA and they are additionally protected from:

- Intentional or reckless disturbance (at any level)
- Intentional or reckless obstruction of access to any place of shelter or protection
- Selling, offering or exposing for sale, possession or transporting for purpose of sale.

Other native species of herpetofauna are protected solely under Schedule 5, Section 9(1) & (5) of the WCA, i.e. the adder *Vipera berus*, grass snake *Natrix natrix*, common lizard *Zootoca vivipara* and slow-worm *Anguis fragilis*. It is prohibited to:

- Intentionally or recklessly kill or injure these species.

Effects on development works:

A European Protected Species Mitigation (EPSM) Licence issued by the relevant countryside agency (e.g. Natural England) will be required for works liable to affect the breeding sites or resting places amphibian and reptile species protected under Habitats Regulations. A licence will also be required for operations liable to result in a level of disturbance which might impair their ability to undertake those activities mentioned above (e.g. survive, breed, rear young and hibernate). The licences are to allow derogation from the relevant legislation, but also to enable appropriate mitigation measures to be put in place and their efficacy to be monitored.

Although not licensable, appropriate mitigation measures may also be required to prevent the intentional killing or injury of adder, grass snake, common lizard and slow worm, thus avoiding contravention of the WCA.

Water voles

The water vole *Arvicola terrestris* is fully protected under Schedule 5 of the WCA. This makes it an offence to:

- Intentionally kill, injure or take (capture) water voles
- Intentionally or recklessly damage, destroy or obstruct access to any structure or place used for shelter or protection
- Intentionally or recklessly disturb water voles while they are occupying a structure or place used for shelter or protection

Effects on development works:

If development works are liable to affect habitats known to support water voles, the relevant countryside agency must be consulted. It must be shown that means by which the proposal can be re-designed to avoid contravening the legislation have been fully explored e.g. the use of alternative sites, appropriate timing of works to avoid times of the year in which water voles are most vulnerable, and measures to ensure minimal habitat loss. Conservation licences for the capture and translocation of water voles may be issued by the relevant countryside agency (e.g. Natural England) for the purpose of development activities if it can be shown that the activity has been properly planned and executed and thereby contributes to the conservation of the

population. The licence will then only be granted to a suitably experienced person if it can be shown that adequate surveys have been undertaken to inform appropriate mitigation measures. Identification and preparation of a suitable receptor site will be necessary prior to the commencement of works.

Otters

Otters *Lutra lutra* are fully protected under the Conservation Regulations through their inclusion on Schedule 2. Regulation 41 prohibits:

- Deliberate killing, injuring or capturing of Schedule 2 species
- Deliberate disturbance of species in such a way as:
 - To impair their ability to survive, breed, or reproduce, or to rear or nurture young;
 - To impair their ability to hibernate or migrate
 - To affect significantly the local distribution or abundance of the species
- Damage or destruction of a breeding site or resting place

Otters are also currently protected under the WCA through their inclusion on Schedule 5. Under this Act, they are additionally protected from:

- Intentional or reckless disturbance (at any level)
- Intentional or reckless obstruction of access to any place of shelter or protection

Effects on development works:

An EPSM Licence issued by the relevant countryside agency (e.g. Natural England) will be required for works liable to affect otter breeding or resting places (often referred to as holts, couches or dens) or for operations likely to result in a level of disturbance which might impair their ability to undertake those activities mentioned above (e.g. survive, breed, and rear young). The licence is to allow derogation from the relevant legislation but also to enable appropriate mitigation measures to be put in place and their efficacy to be monitored

Bats

All species are fully protected by Habitats Regulations 2010 as they are listed on Schedule 2. Regulation 41 prohibits:

- Deliberate killing, injuring or capturing of Schedule 2 species (e.g. All bats)
- Deliberate disturbance of bat species in such a way as:
 - To impair their ability to survive, breed, or reproduce, or to rear or nurture young;
 - To impair their ability to hibernate or migrate
 - To affect significantly the local distribution or abundance of the species
- Damage or destruction of a breeding site or resting place

Bats are afforded the following additional protection through the WCA as they are included on Schedule 5:

- Intentional or reckless disturbance (at any level)
- Intentional or reckless obstruction of access to any place of shelter or protection

Effects on development works:

Works which are liable to affect a bat roost or an operation which are likely to result in an illegal level of disturbance to the species will require an EPSM licence. The licence is to allow derogation from the legislation through the application of appropriate mitigation measures and monitoring.

Dormice

Dormice *Muscardinus avellanarius* are fully protected under Habitats Regulations through their inclusion on Schedule 2. Regulation 41 prohibits:

- Deliberate killing, injuring or capturing of Schedule 2 species
- Deliberate disturbance of species in such a way as:
 - To impair their ability to survive, breed, or reproduce, or to rear or nurture young;
 - To impair their ability to hibernate or migrate
 - To affect significantly the local distribution or abundance of the species
- Damage or destruction of a breeding site or resting place

Dormice are also protected under the WCA through their inclusion on Schedule 5. Under this Act, they are additionally protected from:

- Intentional or reckless disturbance (at any level)
- Intentional or reckless obstruction of access to any place of shelter or protection

Effects on development works:

Works which are liable to affect a dormice habitat or an operation which are likely to result in an illegal level of disturbance to the species will require an EPSM licence. The licence is to allow derogation from the legislation through the application of appropriate mitigation measures and monitoring.

White clawed crayfish

The white clawed crayfish *Austropotamobius pallipes* receives partial protection under Schedule 5 of the WCA in respect of Sections 9(1) and 9(5). This makes it an offence to:

- Intentionally take (capture) white-clawed crayfish.

Effects on development works:

The relevant countryside agency will need to be consulted about development which could impact on a watercourse or wetland known to support white clawed crayfish. Conservation licences for the capture and translocation of crayfish can be issued if it can be shown that the activity has been properly planned and executed and thereby contributes to the conservation of the population. The licence will only be granted to a suitably experienced person if it can be shown that adequate surveys have been undertaken to inform appropriate mitigation measures. Identification and preparation of a suitable receptor site will be necessary prior to the commencement of the works.

Wild Mammals (Protection Act) 1996

All wild mammals are protected against intentional acts of cruelty under the above legislation. This makes it an offence to mutilate, kick, beat, nail or otherwise impale, stab, burn, stone, crush, drown, drag or asphyxiate any wild mammal with intent to inflict unnecessary suffering.

To avoid possible contravention, due care and attention should be taken when carrying out works (for example operations near burrows or nests) with the potential to affect any wild mammal in this way, regardless of whether they are legally protected through other conservation legislation or not.

Legislation afforded to Plants

With certain exceptions, all wild plants are protected under the WCA. This makes it an offence for an 'unauthorised' person to intentionally (or recklessly in Scotland) uproot wild plants. An authorised person can be the owner of the land on which the action is taken, or anybody authorised by them.

Certain rare species of plant, for example some species of orchid, are also fully protected under Schedule 8 of the Wildlife and Countryside Act 1981 (as amended). This prohibits any person from:

- Intentionally (or recklessly in Scotland) picking, uprooting or destruction of any wild Schedule 8 species (or seed or spore attached to any such wild plant in Scotland only)
- Selling, offering or exposing for sale, or possessing or transporting for the purpose of sale, any wild live or dead Schedule 8 plant species or part thereof
- In addition to the UK legislation outlined above, several plant species are fully protected under Schedule 5 of The Conservation of Habitats and Species Regulations 2010. These are species of European importance. Regulation 45 makes it an offence to:
 - Deliberately pick, collect, cut, uproot or destroy a wild Schedule 5 species
 - Be in possession of, or control, transport, sell or exchange, or offer for sale or exchange any wild live or dead Schedule 5 species or anything derived from such a plant.

Effects on development works:

An EPSM licence will be required from the relevant countryside agency for works which are liable to affect species of planted listed on Schedule 5 of the Conservation or Habitats and Species Regulations 2010. The licence is to allow derogation from the legislation through the application of appropriate mitigation measures and monitoring.

Invasive Species

Part II of Schedule 9 of the WCA lists non-native invasive plant species for which it is a criminal offence in England and Wales to plant or cause to grow in the wild due to their impact on native wildlife. Species included (but not limited to):

- Japanese knotweed *Fallopia japonica*
- Giant hogweed *Heracleum mantegazzianum*
- Himalayan balsam *Impatiens glandulifera*

Effects on development works:

It is not an offence for plants listed in Part II of Schedule 9 of the WCA 1981 to be present on the development site however it is an offence to cause them to spread. Therefore, if any of the species are present on site and construction activities may result in further spread (e.g. earthworks, vehicle movements) then it will be necessary to design and implement appropriate mitigation prior to construction commencing.

Injurious weeds

Under the Weeds Act 1959 any land owner or occupier may be required prevent the spread of certain 'injurious weeds' including (but not limited to):

- Spear thistle *Cirsium vulgare*
- Creeping thistle *Cirsium arvense*
- Curled dock *Rumex crispus*
- Broad-leaved dock *Rumex obtusifolius*
- Common ragwort *Senecio jacobaea*

It is a criminal offence to fail to comply with a notice requiring such action to be taken. The Ragwort Control Act 2003 establishes a ragwort control code of practice as common ragwort is poisonous to horses and other livestock. This code provides best practice guidelines and is not legally binding.

Legislation in Wales

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

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

The current guidance for the Section 6 duty can be accessed [here](#)

Section 7 - Biodiversity lists and duty to take steps to maintain and enhance biodiversity

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

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

Part 1 of the Act, including Sections 6 and 7, came into force on May 21, 2016.

The European Union Wild Birds Directive and Habitats Directive establish a legislative framework for protecting and conserving Europe's wildlife and habitats.

The Conservation of Habitats and Species Regulations 2017 and the Wildlife and Countryside Act 1981 (as amended) bring the requirements of these Directives into national law.

The Wildlife and Countryside Act 1981 (as amended) makes it an offence (subject to exceptions) to intentionally kill, injure or take any wild animal listed on Schedule 5, and prohibits interference with places used for shelter or protection, or intentionally disturbing animals occupying such places. The Act also prohibits certain methods of killing, injuring, or taking wild animals.

At the centre of European Union nature policy is the creation of a coherent ecological network of protected areas across the EU. This is known as the Natura 2000 network. These protected areas are for habitats and species considered to be of outstanding international significance. Their purpose is to maintain or restore the habitats and species at a 'favourable conservation status' in their natural range. The network comprises:

Special Protection Areas (SPAs) - classified to protect rare and vulnerable birds and regularly occurring migratory species

Special Areas of Conservation (SACs) - designated for their important contribution to the conservation of natural habitats and species of the plants and animals they support.

In addition, some species of plants and animals are given additional protection. These are known as 'European Protected Species'

Wales has 21 Special Protection Areas for vulnerable birds and 92 Special Areas of Conservation for other rare species and threatened natural habitats. Together they constitute the Natura 2000 network in Wales.

Species protection under the Habitats Directive

Over 1000 animal and plant species, as well as 200 habitat types, listed in the directive's annexes are protected in various ways:

Annex II species (about 900): core areas of their habitat are designated as sites of Community importance (SCIs) and included in the Natura 2000 network. These sites must be managed in accordance with the ecological needs of the species.

Annex IV species (over 400, including many annex II species): a strict protection regime must be applied across their entire natural range within the EU, both within and outside Natura 2000 sites.

Annex V species (over 90): Member States must ensure that their exploitation and taking in the wild is compatible with maintaining them in a favourable conservation status.

The Conservation of Habitats and Species Regulations 2017 make it an offence to deliberately kill, injure, capture or disturb the European Protected Species (EPS), listed in Annex IV of the Conservation of Natural Habitats and of Wild Fauna and Flora Directive.

Ramsar Convention

The Convention on Wetlands, called the Ramsar Convention, is an intergovernmental treaty that provides the framework for national action and international cooperation for the conservation and wise use of wetlands and their resources. The convention entered into force in the United Kingdom on 5 May 1976. The United Kingdom currently has 174 sites designated as Wetlands of International Importance (Ramsar Sites) and 10 of these sites are in Wales (this figure includes 3 cross-border sites).

Environment Act (Wales) 2016

Section 6 of the Environment Act places a duty on public authorities to 'seek to maintain and enhance biodiversity' so far as it is consistent with the proper exercise of those functions. In so doing, public authorities must also seek to 'promote the resilience of ecosystems'.

Section 7 of the Environment Act requires The Welsh Ministers to publish, review and revise lists of living organisms and types of habitat in Wales, which they consider are of key significance to sustain and improve biodiversity in relation to Wales. This is known as the S7 list.

Planning Policy Wales delivers land use planning policy for Wales and provides a framework for the effective preparation of local planning authorities' development plans. This is supplemented by 21 topic based Technical Advice Notes (TANs). Technical Advice Note 5- Nature Conservation and Planning is a key TAN in relation to nature conservation and biodiversity.

Sites of Importance for Nature Conservation are an important element in many local authority planning regimes and cover significant areas of biodiversity priority habitats and species. Designation is based on objective scientific criteria that accord with the Wales wide guidelines. Identified sites are typically shown on the local development plan proposals map or constraints map.