

**Land off Stryt y Bydden
New Broughton , Wrexham
Proposed four pitch Gypsy / Traveller site
Initial habitat and species assessment**



View of the site, a previously cleared former railway



Camlad Ecology Ltd.
Shrewsbury

November 2023

Initial Habitat and species assessment, new site off Stryt y Bydden, New Broughton, Wrexham

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The author of this report, E J Lomas, holds an MSc in Ecology and Management of the Natural Environment (Bristol) and a Cert HE in British Archeology (Birmingham). He has over 30 years of professional experience and worked for NJL Consultants, Telford, between 1991 and 2011. Before that his background and main work was in agriculture. He has carried out many surveys for small scale developments and has also acted as the principal ecologist for large scale road building, flood defense, and historical restoration projects.

NOTE – all dimension, boundaries and drawings given in this report are approximate, for illustration only. More definitive details are provided in the architect's drawings.

Short-form Summary, habitat and species assessment, site off Stryt y Bydden, New Broughton

(figures in brackets refer to section in the main text)

1. This report relates to the possible ecological impacts of a proposed development affecting an area of former railway track alongside Stryt y Bydden (a minor road), New Broughton, near Wrexham. The proposed development area is on bare ground cleared under a previous owner. The ground surface consists of mixed fine clinker and rubble probably sourced from within or close to the site itself. The overall area of the site is approximately 1,710m². The owner of the property, Mr Patrick Berry, seeks to establish a four pitch gypsy / traveller site as a permanent family residence.
2. A desk study and site survey has been completed by E J Lomas, a suitably qualified and experienced ecologist employed by Camlad Ecology Ltd, in October and November 2023. This survey sought to determine whether the proposed development was likely to have any impact on protected and priority species, or on valued habitat.

The survey and study has found that:

3. For reasons of project scale, distance, topography and hydrology, there are no predicted impacts on statutory protected sites or priority habitats, provided pollution risks are removed by design and site management. Consideration has been given to the design and layout of a waste water treatment installation, in line with current NRW guidelines. The requirement for a Habitat Risk Assessment by the planning authority may be scoped out due to the small scale of the project and its distance from protected habitat (see 3.1.1, 3.1.4).
4. The habitat previously on site was stripped in 2022 by a previous owner before the site was purchased by (3.3.1). It consisted of sparse scrub and grass growth over a granular substrate, from Google Earth images and examination of existing habitat in and close to the site.
5. Desk study and site survey show that the development site is not over a former tip or any near-surface mine site (1.2.5, 1.2.6, 3.1.4).
6. Land and habitat features around the proposed development could be closely examined. There was no evidence of habitat important to bats or fully protected bird species within or near the site. The site is of a former railway route, but this is cut off immediately north of the site by housing developments, so there should not be any impact on habitat continuity. Notes on suitable precautions and mitigation measures are given in the main text (4.4, 4.6, 5.3.1 to 5.3.3).
7. There are no existing local ponds shown on maps, or located during survey of the wider area. We are confident that there will be no impact on great crested newt populations (4.9).
8. Impacts on other habitat of value to fully protected species are unlikely, given adequate control of pollution and light spill. There are no watercourses, older buildings or large trees on or close to the site. No further survey for protected species should be needed. No invasive plant species were found on or near the site.
9. There is a very low level of risk to nesting birds and to hedgehogs. These risks have to be managed by careful timing and careful working procedures (4.4, 4.5, 5.3). No other mitigation would be practical or proportionate.
10. There would be little or no impact on distinctive habitat; the only habitat previously within the site was sparse grass and scrub. Mitigation could take the form of native hedgerow planting (5.6).

Notice concerning copyright, assignment and validity

This report has been produced for _____ by Camlad Ecology Ltd, following surveys carried out in November 2023. Copyright resides with Camlad Ecology. The report may be quoted in part or in full in relation only to the site described in it by those with a legitimate interest in the development or wildlife conservation value of the site. If the report is quoted in part then the relevant and exact context of any quotation must be evident. Where information from this report is misquoted or quoted without full context we will make planning officers aware of this. In relation to this, we must point out that all ecological surveys are 'incomplete' and all findings are conditional: it is impossible to know exactly what species are present where, over any extended period of time.

Camlad Ecology Ltd. have given consent for this report to be assigned by _____ any initial purchasers of the site described in this report, or to _____ partners in a development, provided that we are notified of the assignee's formal business name and address. The report may not be further assigned without direct agreement between Camlad Ecology and later purchasers of the site.

Intending developers of the site should take note of the fact that ecology surveys are concerned with habitats that change through successional processes and with protected species that are usually mobile and often seek concealment. Therefore the findings of an ecological survey are not perpetual and not completely definite. The condition of the site will change; in particular any buildings and large trees that are not maintained will become increasingly attractive to wildlife, including protected species, as they suffer damage from vandalism, storms and normal decay processes. Ecology survey reports are generally considered to have limited value from two years after the last survey date.

Intending developers should take careful note of the information provided in Annex 3, concerning wildlife protection law, planning policies, and the protected species most often encountered during development projects in the Welsh border counties and the adjacent English counties.

Survey results as published

If this report is published as part of a planning application it enters the public domain. It is acceptable to Camlad Ecology Ltd. and our clients for a brief summary of the report's findings to be quoted in relation to other local ecology surveys, or in relation to the proposed development, as long as the quotation is accurate, with full context, and attributed. As examples:

"Survey by Camlad Ecology Ltd. during spring 2021 found a small breeding population of great crested newts in the pond at OS grid reference NH 240250. This is about 640m from the site" would be acceptable. "Survey by Camlad Ecology has found great crested newts near to the site. These newts could spread to the proposed development site" is not acceptable.

Use of our raw or numeric data, or tables showing results, assessments and conclusions, or plans and maps drawn by us, would not be acceptable without prior agreement.

Initial habitat and species assessment, land off Stryt y Bydden, New Broughton, Wrexham**1.0 Introduction****1.1 Origins and Objectives**

1.1.1 Camlad Ecology Ltd. has been commissioned to carry out a desk study and an ecological survey of land off Stryt y Bydden, New Broughton, Wrexham, the owner of the site. The site has recently come into the ownership of his family; long before this it was part of a railway track, abandoned in 1982 and then apparently part of a larger landholding, subsequently sold off in sections. The immediately previous landowner planned to use the site for storage.

1.1.2 This report, based on the desk study and site survey, provides a Preliminary Ecological Assessment and endeavours to take that process forward by including additional information to support an assessment of likely impacts on habitats or species of recognised importance that could be affected by the proposed development.

1.1.3 The survey was undertaken to establish whether bats, badgers, breeding birds, other protected species and some locally valued species could be present within the site and in the area around the site. The survey sought to determine whether protected or valued species were present and in the absence of direct evidence, whether habitats in and around the site were likely to support any populations of protected or valued species.

1.1.4 Potential impacts on any local sites that have statutory protection for nature conservation or any other designated value for nature conservation have been assessed, and the intended work to the site has been considered in relation to the Wrexham Biodiversity Action Plan, Wrexham Council's Local Planning Guidance 32, Biodiversity, Planning Policy Wales Technical Advice Note 5 and recent update to Chapter 6, and NRW's latest advice on phosphate discharges near sensitive rivers (July 2022). Information has been obtained from the MAGIC website, the NBN Atlas website, Welsh Government and NRW documents relating to the management of the River Dee, and the published Local Plans of Wrexham Council.

1.1.5 The results of the study and survey are given and assessed in this report. Recommendations for a precautionary approach are given in conclusion.

1.1.6 Wildlife conservation in relation to planning policy is effectively covered by the Planning Policy of the Welsh Government and Wrexham County Borough Council and The Environment (Wales) Act 2016, as well as the UK National Planning Policy Framework document: *Conserving and enhancing the natural environment* (DCLG 2019, HMSO, UK), with recent amendments and case law changes to the Habitat Regulations (now the Conservation of Habitats and Species Regulations 2017, amended 2019). The impact of this is to require assessment of potential impacts on sites of international and national importance, and survey for protected species where there is any likelihood of their presence, before work affecting any habitat that might shelter them is begun. Details about wildlife protection laws, wildlife conservation policy, and the principal protected species found in the Welsh border region are given in

Annex 2 of this report. Where there is any doubt or difficulty over these issues, appropriate legal advice should be obtained.

1.1.7 Legal protection for species is from the Wildlife and Countryside Act 1981 as amended (the WCA) and the Protection of Habitats and Species Regulations 2017 (as amended 2019) (The Habitats Regulations). Badgers and their setts are protected under the Protection of Badgers Act 1992 (The Badgers Act).

1.2 General site description

In this report 'the development site' or 'the site' (unqualified) refers to the structures and locations where work may take place, together with ground around it that might be affected. 'The wider site' refers to the ownership area outside the site, which in this case is minimal. The 'survey area' refers to the accessible landscape and buildings within about 250m of the site, while 'the study area' refers to the wider landscape around the site, for which data has been collected in a desk study. Other 'sites' are referred to with a descriptor, as for example 'the statutory site'.

1.2.1 The development site consists principally of about 1,710m² (0.171ha) of open aggregate surfaced yard. It is located in OS grid square SJ 312 510, site centre approx. 331257, 351020. The post code for the locality is LL11 6TQ. This location is just south of New Broughton village, off the Stryt y Bydden minor road and about 2.5 km north west of Wrexham town centre.



View of site, looking north

1.2.2 The site is a long rectangle, about 20m wide by 90m long, as a wholly open yard of bare aggregate surface. This open and bare form is principally the consequence of action by the previous owner. The aggregate appears to be material derived from the former railway embankment. There is no evidence of previously existing hedgerows along either long side of the site, but there are two pollarded hawthorn

shrubs in the northern edge; there is good evidence that these were the only large shrubs or trees present before site clearance. South east of the site, continuing along the former rail track, there are small enclosures comprising disturbed ground with sparse grass and scrub growth. Within this there are relatively young self set trees and shrubs. To the north of the site there is a 3.3ha arable field; this is to be the subject of a planning proposal (Berse Road, Caego, Ainsley Gorman Architects, 2023). On the south side of Stryt y Bydden there is a dense and tall hawthorn hedge, with much ivy. This hedge appears to have been planted (or replanted) about 30 years ago. Beyond this there is a 10ha arable field.



View of site looking south, continuation of former rail track beyond site.
Note hawthorn pollard on left



Section of former trackway beyond the site.
Note absence of hedge to field and mounded material.

1.2.3 A small river, the River Gwenfro, flows from north west to south east, passing nearest to the site at about 245m to the south west. The stream was seen to be about 2m wide in November 2023, flowing swiftly in a fairly natural channel, in a shallow valley that is mostly under arable cultivation. From the site, this agricultural land rises slightly then slopes south west to the river. The settlements of New Broughton and Brynteg lie to the north and east of the site, on a low ridge that separates the site from another watercourse in the Moss Valley Country Park. There are two man-made pools on line with this stream, about 6,000 and 9,500m² in area. At the lower end of Moss Valley there is a wetland Site of Special Scientific Interest (SSSI), Gatewen Marsh, on-line with the stream and 600m north east of the site, beyond the ridge. The Moss Valley stream joins the Gwenfro well downstream of the site, within Wrexham town.

1.2.4 The Gwenfro flows onwards through Wrexham town centre, with about 1km in culverts, and joins the River Clywedog at King's Mill about 5.5km downstream of the site (corridor length – a 'smoothed' approximation to the channel length at high flow). The Clywedog does not have a statutory designation for nature conservation but it is a tributary of the River Dee, which is about 17km corridor length downstream from the site. The entire River Dee and its corridor are designated as a Site of Special Scientific Interest (an SSSI) and a Special Area for Conservation (an SAC): both are designations applied to high value sites for nature conservation and they provide considerable legal protection.

1.2.4 About 30% of the land within 1km of the site is under urban habitat, with 19th and 20th century housing estates of varied density. The Moss Valley and parts of the Brymbo Heritage area are used for quiet recreation and managed as semi-natural habitat. Many fields east of the site are small enclosures of improved grassland used for grazing or silage, small arable fields, or improved amenity grassland on sports pitches and golf courses. West of the site and further away from the neighbouring villages of New Broughton and Brynteg there is mixed improved grassland and arable cultivation in small to medium sized fields on relatively level ground, with extensive areas of woodland on steep slopes.

1.2.5 The earliest OS maps (1879 6", 1:10,560) show the site as part of a single track railway line, with fields to the north and a single field to the south, down to the Gwenfro, which appears to be in its present channel. The Stryt-y-Bydden road is shown on its present day alignment, with the section adjacent to the site running immediately against the railway line. The villages of New Broughton and Caego are not shown; there is one large country house with outbuildings (Berse Drelincourt) east of the site, with Broughton Farm and Broughton Hall Ironworks north west of the site.

By 1900 the area immediately around the site is largely unchanged, but New Broughton village is developing around Broughton Farm and an industrial complex around the iron works has spread to include a colliery, a power station, coke works, and a network of mineral rail lines. Mining and processing increases through the first half of the 20th century, together with growth of New Broughton, but the area immediately around the site remains unchanged. Caego is not shown or named as a separate village. By 1964 the industrial activity has declined and New Broughton has reached almost to its modern extent, although some houses just north west of the site are not shown. An account of the history of the line (Wrexham and Minera Railway, in Wikipedia) reports the rail line as closed to passengers in 1950, with mineral and steel transport use to 1982 and track lifting in the late 1980's. In its final phase of use the

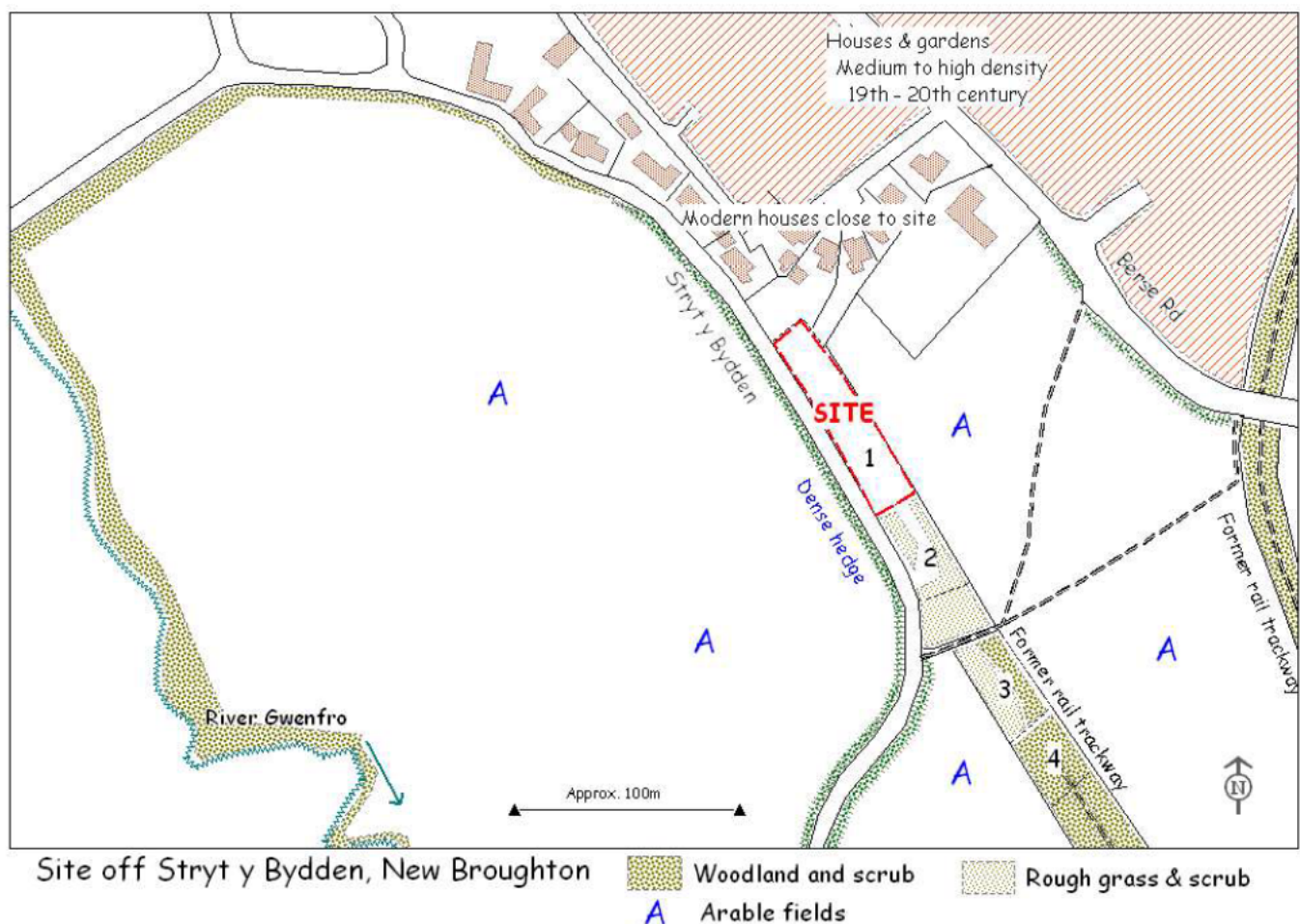
remaining section of line would have been, in effect, a siding. The section of the line around the site was likely to have been double track through most of the 20th century.

1.2.6 Google Earth aerial (GE) images from 2006 onwards show the site and wider site as similar to the present layout, with the site generally vegetated but with no hedgerows and some bare areas and pathways. Two images with low morning sun show shadows indicating tree and shrub height (2007, 2021). Images from 2018 and 2021 show higher levels of activity and more bare ground on the enclosed sections just south of the site. The final image, from May 2023, shows the site as fully cleared.

1.3 Proposed Works

1.3.1 Our client is seeking to establish a four pitch permanent traveller site, for his family.

Plans of the site follow.



2.0 Methodology

2.1 Desk study

2.1.1 The proposed development has been considered in relation to the Wrexham Biodiversity Action Plan. Information has been obtained from the NBN Atlas website, Wrexham Council's website, The Welsh Government website, the NRW website, the British geological Survey website and the MAGIC website. No information has been acquired from COFNOD, the source for ecological data for North Wales, due to time constraints. NBN records appear up-to-date, with bat records up to 2022.

2.1.2 Ordnance survey maps of the area, including historic large scale maps from 1879 onwards, together with online British Geological Survey maps and Google Earth images, have been used to assess the wider landscape and environment.

2.1.3 None of the records on the NBN Atlas website related to the site or land around it, strongly indicating that there had been no previous survey effort in the immediate locality. NBN records appeared comprehensive and up to date for this area; the most recent record found was a hedgehog record from 2023.

2.2 Habitat survey

2.2.1 Habitats were observed in the course of walkover surveys on 6th November 2023, with the survey methodology based on the JNCC Phase 1 methodology (JNCC 2001) and CIEEM recommendations for Preliminary Ecological Assessment.

2.2.2 The holding and the former rail route south east from the site were walked over and neighbouring gardens and fields were viewed from boundaries. Roads and footpaths were followed on foot for about 250m away from the site.

2.2.4 Shallow spade pits were dug within the development site.

2.3 Species survey

2.3.1 Badger survey followed Mammal Society guidelines, with particular attention to the boundaries of the site, where evidence of foraging animals entering the site would be apparent.

2.3.2 The habitats in and around the site were checked for potential bat roost habitat; no large trees were found within 100m of the site. Neighbouring houses were not visited; these are mostly quite modern.

2.3.3 Nesting birds: bird species and nests were recorded during other survey work. Habitat suitability was noted.

2.3.4 Great crested newts: In the desk study modern and older large scale maps were searched for ponds within 1km of the site. Very few were found and there has been considerable disturbance from 19th and 20th century housing estate construction. During the walkover survey ground within 250m of the site was checked for unmapped ponds and ditches. No suitable ponds or ditches were found.

2.3.5 Other species: the presence or likely absence of other species has generally been inferred from the presence or absence of suitable habitat. Species using scrub, hedgerows and trees and crevices may be present in the scrub south east of the site and the gardens north of the site, but there would be no significant disturbance of these features.

3.0 Habitat: findings and assessment

3.1 Protected, listed and other valued habitats

3.1.1 The nearest site with statutory protection for nature conservation is the Gatewen Marsh SSSI about 640m north east of the site and on-line with the stream flowing through Moss Valley. Risks to this should be minimal but are considered in 3.18 below.

An earth sciences SSSI, Brymbo Fossil Forest, lies 2.9km NW of the site; no impacts are predicted from the development.

Lley Bog SSSI is 4.4km NE of the site, within a separate river catchment from the site; no impacts are predicted from the development.

There are three other nationally and internationally important sites for nature conservation within 5km; all are over 4km from the site. These are The Berwyn and South Clwyd Mountains SSSI, Ruabon and Llantysilio Mountains SSSI, and Vicarage Moss Ramsar Site; no impacts are predicted from the development.

The site is within the catchment of the River Dee and Bala Lake / Afon Dyfrdwy a Llyn Tegid SAC and the coincident Afon Dyfrdwy / River Dee SSSI (Wales). This is a site of international importance as river and river corridor habitat extending from upland sources to its estuary, with high quality habitats throughout. The site is over 8km from the SAC boundary at its nearest, and 16km upstream (corridor length), via tributaries that are not designated.

3.1.2 Soils under the site are no longer present as topsoil; the site is raised about 500mm above the adjacent field on a bed of stone and crushed clinker. The adjacent field has mid brown clayey loam topsoil. The BGS mapping shows the site and the surrounding area as being over peri-glacial Devensian till, mostly of sands and gravels, down to alluvial material around the Gwenfro. The soils in fields adjacent to the development site have a semi-natural form and there is no evidence of non-agricultural disturbance or imported material.

3.1.3 The local subsoil appeared to be slowly permeable; deeper layers, from BGS mapping will be more permeable, as sands and gravels. The slopes from the road and field to the Gwenfro are gradual but continuous. There may be short range groundwater recharge to the river, and possibly surface flow down the road, so any polluting discharge from the site may reach the river quite quickly.

3.1.4 The River Gwenfro is river habitat that is protected from pollution under the Water Resources Act 1991 and the Salmon and Freshwater Fisheries Act 1975, but it is not classed as a 'main river'. It is also a secondary tributary of the River Dee SSSI / SAC; general reference to this is made in the Dee Water Protection Zone document (NRW 2008), and the Dee Basin River Management Plan (NRW 2015). The site is over 240m from the Gwenfro and about 8km direct from the River Dee SAC. Any pollution spill could quickly become unmanageable in heavy rain, by flowing down the road, so a high level of precaution over pollution will be needed. Recommendations are given in section 5.4 & 5.5, but see also 3.1.8 below.

3.1.5 In addition to concerns about pollution spills during construction, there has to be concern about the management of domestic waste water. The treated waste from four pitches would not be significant in relation to the Wrexham population, but the incremental accumulation of such discharges from widespread development in the Dee catchment has to be taken into account. This is referenced in NRW 2015 and NRW 2022. There is a possibility of accumulation in the permeable ground material of the site during dry weather, followed by discharge in wet weather, see 5.5.

3.2 General habitat in and around the site

3.2.1 All of the development site area is on an unconsolidated granular material containing a high proportion of fine clinker, a product of partial coal combustion and iron smelting. This is a former rail trackway close to an ironworks, so such material was available locally. We could find no current commercial and local source of this material, so conclude that it is the original track bed material, originating close to the site and present on or very close to the site before it was levelled. This material will be neutral to acidic, unlike some rail track beds that are of limestone. Google Earth images from 2006 onwards show no hard standing, sheds or other structures. A cleared area is apparent on a 2009 image, together with paths created by dogwalkers from neighbouring houses (this activity is still evident). The only vegetation on site is very recent sparse grass and moss, and the two pollarded hawthorns, with ivy; these are evident as the only large shrubs on 2009 Google Earth images.

3.2.2 The former railway route continues southwards as small enclosures, cut through by a public path about 65m south of the site. The enclosure just south of the site (section 2 on the plan) has mounded ballast material on the field side, with scrub growth, and sparse pioneer vegetation on the central area. There is a tall but young belt of shrubs along the roadside. GE images show the central area as clear, with small structures, possibly livestock shelters, from 2009 to 2018.

3.2.3 The next section (3), south of the footpath, begins with a steep mound under tall herb growth. Beyond that it is mostly rank grassland with remnant stock shelters and young volunteer tree and shrub growth. This section shows as much more open and in active use on GE images from 2012 to 2018.

3.2.4 The railway route beyond section 3 appears unenclosed, continuous and wooded along each side up to a junction with another former rail route. The trees are typically 350 to 450mm stem diameter, oaks, birches and sycamore, apparently self set, not in planting rows. Just before the end it crosses the Gwenfro, which flows through a railway type bridge. The other rail route carries a hard surfaced foot and cycle path, with trees along each margin.

3.2.5 Stryt y Bydden runs along the western boundary of the wider site. Beyond the site to the north there are recent detached houses with large gardens, and then the denser and mostly older housing development in New Broughton. The road and the arable field west of the road slope gradually down to the Gwenfro.

3.3 Habitat loss from the development

3.3.1 It has to be emphasised that the site is in almost the same condition as it was when it was first purchased by the current owner. Evidence for this is provided by a court case brought against the previous owner, for clearing the site to develop it without planning consent, and by a photograph in the design and access statement for the proposed development of the adjacent field (Ainsley Gorman 2023). Vegetation in this photograph shows that it was taken in late spring 2022; the site is bare and aggregate is mounded on part of it.

3.3.2

4.0 Protected, listed and priority species

Details about species protection and formal titles of Acts and Regulations are given in Annex 2.

Ecological record references that follow are from the NBN Atlas records. They indicate the presence of the various species in the wider area.

4.1 The majority of protected, listed and priority species that are found in the Welsh border region are highly unlikely to be present in or around the development site: there is a lack of suitable habitat.

4.2 Badgers:

Badgers are protected from harm and disturbance under the Badgers Act; work close to a badger sett may require licensing. There was no evidence of badger activity within 50m of the site and no burrows were found in the adjacent fields and hedgerows. There were no definite signs of activity within the wider survey area. The material under the site does not appear suitable for burrows as it is not cohesive. Precautions should be maintained during all work on site – See 5.3.4 below.

4.4 Bats

4.4.1 There are 12 bat records for the 2km radius study area: these records include common pipistrelle, and brown long-eared bat. This is a relatively low level of bat records for urban fringe habitat and probably under represents bat presence in the area. Bats are fully protected under the WCA and the Habitats Regulations.

4.4.2 The development site itself contains no suitable shelter habitat for bats. There are no large trees on or close to the site and no structures within the site. Houses adjacent to the site are late 20th century, with the nearest slate or tile roofed building being about 17m from the proposed development.

The hedgerow on the far side of Stryt Y Bydden road is tall and continuous ; bats commuting along this would be on the unlit side, away from the road. At the time of purchase, there were no flight line features within the site. Lighting has been planned to avoid any illumination of the site boundary to the adjacent field; future planting and development might provide screened flight lines.

4.4.3 The proposed development should not result in any significant decrease in foraging habitat. There will be no routine night time lighting of the site margin towards the field. Impacts on bats are unlikely and further survey is not considered necessary.

4.5 Other mammal species

4.5.1 There are 52 hedgehog records for the 2km radius study area, including some from the residential area of New Broughton. Hedgehogs have a species action plan under the UK BAP; there is evidence that numbers are declining nationally. The adjoining gardens and scrub could support hedgehogs. To avoid harm to hedgehogs any potential hibernation sites should be removed from the working area before late autumn, or left until spring.

4.5.2 Polecats, a UK BAP species, could be present in the wider area around the site. These are very active animals, and highly unlikely to be affected by small scale works.

4.5.3 There are no otter or water vole records from the Moss Valley area or the River Gwenfro; these are unlikely to be present and active along the streams, which are small and cut off from other watercourses by long culverts under Wrexham. The proposed work on the site should not impact water voles or otters even if present and should not result in any increased risk to otters on local roads, due to the site being distant from watercourses.

4.6 Protected bird species

4.6.1 Protected bird species are those listed in Schedule 1 of the WCA; they are fully protected from disturbance or harm at all times. The only schedule 1 bird records for the surrounding 2km radius area on the NBN Atlas are kingfisher sightings along watercourses. There is no particularly suitable nesting habitat for protected species in or immediately adjacent to the site. No further survey is considered necessary.

4.6.2 A normal level of precaution should be sufficient to avoid any impact on protected birds.

4.7 Breeding birds

4.7.1 All birds are protected while breeding, under the WCA, this protection includes all related activity and all life stages. There are records for 90 bird species and several thousand separate occurrences within the 2km radius study area. The great majority of these appear to be from systematic surveys such as BTO winter surveys and semi-systematic surveys such as the RSPB Big Garden Bird Watch, and are at 1km precision. The shrubs near to the site are likely to be used by a number of species, but there was no sign of any bird nesting habitat within the site.

4.7.2 Birds will nest in any available habitat that meets the particular needs of their species, including hedgerows, piles of brash, stacks of construction material and inactive construction plant, which can present a serious constraint on development. This is normally avoided by site clearance during autumn or early spring and good site management practices. Clearance in winter should be avoided if possible, because of the risks to dormant or hibernating wildlife.

4.8 Reptiles

4.8.1 There are five reptile records for the surrounding area, a record for grass snake from Gatewen Marsh SSSI and two from close to the River Clwedog. The habitat in the site itself is limited and not particularly suitable due to the lack of cover. The risk to reptiles is assessed as low. Survey for reptiles is difficult, and it is possible for populations to remain undetected. A precautionary approach should be maintained during development. No further survey should be necessary.

4.9 Great crested newts

4.9.1 Great crested newts are fully protected under the WCA and the Habitats Regulations. There are some records within 2km of the site; the NBN Atlas shows clusters around Gersyllt village, beginning about 1.9km NE of the site, and scattered records about 1km from the site.

4.9.2 Overall, the nature of the terrain around the site and the lack of ponds near to the site indicate that great crested newts are very unlikely to be present around the site. Normal precautions should be sufficient and no further survey should be necessary.

4.10 Other amphibians

4.10.1 Common frogs, common toads, smooth newts and palmate newts may be present around wetland habitat in the wider area. All have been recorded from Moss Valley. A precautionary approach is recommended. These species are partially protected under the WCA.

4.11 Invertebrates

4.11.1 The site consists of a bare granular surface, with only commonplace and relatively recently established plant communities around it. There are no veteran trees or old orchards nearby. Rare or endangered invertebrates are unlikely to be present around the site.

4.12 Plant species

4.12.1 Habitats around the site are typical arable fields, old railway line with neutral to acidic ballast, gardens, scrub and recent tree growth, all highly unlikely to support rare plants or uncommon plant communities. The nearest record for a protected or listed species is for native bluebell, about 1.2km north of the site. There are also records for Welsh groundsel and lesser twayblade, over 1km from the site, both relatively rare.

4.13 Mature Trees

4.13.1 There are no mature trees on the margins of site or in the adjacent fields.

4.14 Invasive species

4.14.1 No non-native invasive species (INNS) such as Japanese knotweed were found in or near the site. There are records for Japanese knotweed, parrot's feather and Indian balsam within 2km of the site. There did not appear to be any cotoneaster species or other plants previously used for landscaping and now listed as invasive (Schedule 9, WCA) in or near the site, the rail trackway is under a dense semi-natural grass and tall herb sward or bare or sparsely vegetated. Given the nearby populations of some INNS, care must be taken not to import any material from invasive plants.

5.0 Conclusions and recommendations

5.1 Conclusions

5.1.1 Based on our survey findings, there would be no direct risk to protected and valued species from the proposed work on this site, provided that care is taken to avoid disturbance of hedgehogs and nesting birds.

5.1.2 As this small site consists of a granular aggregate surfaced yard with little vegetation, without any adjacent features of particular value to protected species, further species survey is not considered necessary.

5.1.3 Work to the site should not impact on the surrounding landscape if care is taken over pollution.

5.1.4 There is a possible pollution risk to the nearby watercourse from both overground flow down the road during rainstorms and through short-period groundwater flows and discharge to the stream. Potential pollution sources during construction could include fuel and oil spillage, cement or raw concrete spillage, and suspended fine particles from soil. Strict pollution control measures must be in place, including designated areas for refueling and storage, and spill procedures. Sediment traps such as swales

and bunds would not be appropriate, due to the permeable nature of the substrate, but plans to quickly excavate and store contaminated substrate should be in place.

5.1.5 Long term cumulative pollution from domestic waste water, particularly dissolved nitrates and phosphates would be mitigated by the installation of a biodisk treatment plant, which should reduce nitrates, phosphates, and Biological Oxygen Demand. Additional storage is suggested. Details are given in 5.5 following. In relation to NRW standards for pollution control in the catchments of SAC rivers (NRW 2022) it should be noted that the site is over 240m from the Gwenfro and about 16km upstream of the junction of the Clweddog and the Dee, where water from the Gwenfro would enter the SAC. The SAC is about 8km distant in a straight line.

5.1.6 Because ecological survey can only show presence or likely absence, rather than certain absence, and because species may move into a site before the start of development work, a precautionary approach over badgers and other species is also advised.

5.2 General precautions during construction work

5.2.1 All site workers should be made aware of protected species issues and the need for care over spillages and water borne pollution. Environment Agency pollution protection guidelines, particularly the recent NRW / Environment Agency pollution prevention guidelines such as GPP5, GPP13, GPP19, GPP21 and GPP22 should be followed. Special care must be taken over re-fuelling operations.

5.2.2 The developers, site managers and workers should be aware that the contents of this report do not remove individual responsibility under the Wildlife and Countryside Act 1981 as amended.

5.2.3 Clearance of any shrubs, undergrowth and tall herb and grass growth around access routes and the fringes of working areas before mid March will reduce the possibility of harmful impacts on wildlife. The two pollarded hawthorn shrubs, and their ivy cover, should be retained. Site clearance during cold winter weather should be avoided. The best period is mid autumn.

5.2.4 Any trenches left open overnight should have wood or earth ramps to allow trapped animals to escape. All open pipe runs should be blocked off when not being worked on, to avoid trapping animals.

5.2.5 There are populations of Japanese knotweed and other invasive plants in the wider area. Machinery and tools should be carefully cleaned before being brought to the site. A watch should be maintained for any growth of INNS species in or near the site.

5.3 Protected and listed species:

5.3.1 If any bats or other fully protected species are discovered, works should cease immediately and Natural Resources Wales or suitable ecological consultants should be contacted for advice. **(Natural Resources Wales tel: 0300 065 3000, state protected species, development type and that the site is in the Wrexham area, grid reference SJ 312 510)** Contact with NRW is important for the protection of both the species involved and everyone connected with the project; delay over this can open the risk of prosecution.

5.3.2 Bats: If any bat is found on the ground, then it must not be handled but should be covered with an open and inverted cardboard box and left for collection by a licensed bat worker. As above, NRW must be notified. There is a risk of infection with a very rare but extremely dangerous disease from handling bats.

5.3.3 No evidence of bat activity or suitable roost habitat has been found in or around the site, but the presence of small numbers of hibernating bats in tree hollows and buildings in winter, including buildings under construction, cannot be predicted or reliably detected. Work to trees and roofs in cold weather should be avoided.

5.3.4 Badgers: Throughout development work, maintain a watch for signs of badger activity and ensure that any observations or signs of badger activity including fresh excavations, dung pits etc. close to working areas are immediately reported to Camlad Ecology, or other suitable specialists, or appropriate officers at Wrexham Council. In general, no works with hand tools should take place within 10m of a badger sett entrance, no works with JCB 3C or smaller sized machinery within 20m of a sett, or within 30m for larger machinery.

5.3.5 Hedgehogs: Any piles of brush, deadwood and other potential hibernation sites should be removed from the possible working area before late October or left until spring. No material should be stacked in the area before then unless it is raised up on pallets or similar, to avoid creating hibernation habitat. If hibernating hedgehogs are found on site they should be covered over with a cardboard box in the first place, and specialist advice should be obtained.

5.3.6 Nesting Birds: The risk of harming birds nesting in shrubs and trees can be avoided by not working in or close to these features or by clearing them outside the breeding season. Work commencing after mid August and before mid March is unlikely to affect nesting birds. During any construction work care should be taken to avoid birds building nests in stacks of waste and construction materials.

5.3.7 Amphibians and Reptiles: Site workers should be made aware that any deliberate or reckless harm to reptiles is illegal. Careful site clearance can minimize the risk to reptiles and amphibians; waste material, cut vegetation etc. should not be stacked on site close to any likely working areas. Any reptiles and amphibians should be moved to suitable habitat; advice should be sought from ecological consultants and snakes should not be handled without suitable experience.

5.4 Habitat features

5.4.1 Water bodies and ground water: The site is over clayey loam soils, shallow mixed subsoil and sand and gravel till; most drainage is likely to be to surface watercourses in very wet weather, and to groundwater in normal weather. Pollution control procedures and spillage action plans and materials must be in place and known to all workers. It must be made clear that simple assertion and practice of 'skill and care' is not sufficient in this location.

5.4.2 NRW / Environment Agency pollution protection guidelines should be followed; the new GPP5, GPP13, GPP19, GPP21 and GPP22 guidance documents will be particularly relevant. Special care must be taken over re-fuelling operations, waste storage and storage of chemicals, cement etc. These must take place in designated areas where the movement of any spillages over the ground or into the ground will be slow, and capable of being intercepted and the spillage removed. Provision should be in place for the rapid removal of any contaminated substrate.

5.4.3 Mature Trees: The design, layout and implementation of the scheme should avoid any impact on mature trees, as there are none close to the site. There is always some likelihood of damage to the root systems of trees and large shrubs near to excavations; adhering to guidance given in British Standard BS5837:2012 is advised. Root protection areas should be fenced off.

5.5 Suggested long-term pollution control

5.5.1 The following suggestions are based on experience of similar schemes, examination of published documents, and ecological consultancy work for the Environment Agency. The author is not a hydro-geologist or a drainage engineer.

5.5.2 Treatment by biodisk plant and infiltration should be effective at providing primary and secondary treatment of waste water. However, there is some risk of on-site discharge due to overloading or failure of the plant. We suggest that there is provision of some downstream storage that would be functional during heavy rain. This should intercept any potential discharge before it reaches Stryt y Bydden or underlying strata. Stormwater from the dayrooms, caravans and other structures should be diverted away from these arrangements.

5.6 Habitat mitigation and enhancement

5.6.1 The proposed works should have very little impact on habitat for wildlife. As there should be very little biodiversity impact from this scheme, a gain in habitat value can be easily achieved.

5.6.2 Options for habitat improvement include native hedgerow planting around the pitch site, replacement of non-native shrubs with native species, new tree planting in corners and margins of the site, and provision of bird or bat boxes on the rear of day rooms. Planting of a native hedgerow along the rear (east) side of the site would tie in well with the proposed green belt around the residential development planned for the adjacent field.

5.6.3 There is little benefit in planting advanced stock such as standard trees, since saplings will make fast early growth if planted carefully, whereas larger trees will be set back by transplanting. Any tree and shrub planting for biodiversity should be with locally appropriate native species, of British origin, rather than simply 'British provenance', and preferably with stock of local origin. Nurseries near Whitchurch (Shropshire) and Maelor Nurseries, Wrexham, can provide suitable plants.

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Multi-Agency Geographic Information for the Countryside (website) www.magic.gov.uk

Natural England: the Natural England website www.naturalengland.org.uk

This gives access to summaries of wildlife legislation, licensing forms and procedures, etc. and the current mitigation manuals for protected species.

NBN Atlas (National Biodiversity Network) www.nbnatlas.org

For the national database of records for protected and BAP species

Natural Resources Wales: the NRW website, www.naturalresources.wales This gives access to summaries of wildlife legislation, licensing forms and procedures, etc. In particular, advice concerning phosphorous sensitive rivers.

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Annex 1 – Additional photographs



Site, north side, adjacent field and nearby houses
Note hawthorn pollard, upper centre



Vegetation, level area, adjacent enclosure (section 2) of rail bed



Hedge, far (west) side of road



Nettle, bramble and tall herb growth, section 3



Rank grass and scrub, section 4, along rail track.

Annex 2
Notes on wildlife legislation, planning policy and protected species

SPECIES PROTECTION IN RELATION TO DEVELOPMENT

Survey for protected species can be lengthy, and may require site visits at particular times of the year. Survey may not be fully effective unless commissioned well before submission of a planning application. Large or complex sites, and sites likely to include the most important bat roosts, ideally need a survey period of 12 months or more.

Notes below refer to sites in Wales, while the species notes reflect the current situation in the eastern lowland parts of Clwyd and Powys, inland areas of Cheshire and the West Midlands region.

These notes are not formal legal advice, which should be sought from members of the legal profession with specialist knowledge of wildlife law.

LEGAL CONSTRAINTS

There are three principal sources of legal protection for wildlife in the UK. The Environment (Wales) Act 2016 and the new Environment Act 2021 will have some impact on these, but are principally concerned with wider environment protection issues. The three sources are:

The Wildlife and Countryside Act 1981 (the WCA) with its amendments under statutory review every 5 years and by later Acts, particularly the Environmental Protection Act 1990, the Countryside and Rights of Way Act 2000 (the CROW Act) and the Natural Environment and Rural Communities Act 2006 (the NERC Act).

The WCA as amended gives protection to plant and animal species listed under its schedules 1, 5 & 8, and to designated sites, typically Sites of Special Scientific Interest (SSSI). Section 9 of the WCA lists offences including killing or injuring, uprooting, capturing, possession, disturbance, destruction of places of shelter, sale and associated activities. A species that is protected from all of the offences that might apply to it is described as ‘fully protected’, but if only some of the possible offences are applied then it is ‘partially protected’. The level of protection given to a fully protected species is here described in relation to water voles (see below, in species notes). Schedule 9 (not Section 9) lists some invasive non-native plants such as Japanese knotweed; it may be an offence to cause these species to spread. Further details are given at the end of the species notes following this section.

The CROW Act makes most WCA offences into arrestable criminal offences, and includes offences committed ‘recklessly’ as well as deliberately. The concept of recklessness can relate to the level of responsibility due from an individual or organisation. It might be considered reckless if a developer, architect or other professional failed to seek specialist ecological advice.

Developers, development professionals, contractors and site workers all need to be aware that individual responsibility under the WCA always applies, and is not removed by any decision by a planning authority, nor by any advice from an ecological consultant, nor by any EPS mitigation licence.

The Conservation of Habitats and Species Regulations 2017 (as amended 2019), (the Habitats Regulations 2017) which consolidate The Conservation of Habitats and Species Regulations 2010 and later amendments, and prepare for EU exit.

The Habitat Regulations are similar in some aspects to the WCA, but put into UK law the European Habitats Directive. The Regulations include annexes that list species for protection, including but not limited to all bats, otters, dormice and great crested newts. All these species are currently known as European Protected Species (EPS). The main overall impact of the Regulations on development has been to require developers to commission ecological and protected species survey well in advance of planning decisions, and to establish a rigorous licensing process. Licenses may be granted to permit developments that would otherwise breach the Habitat Regulations.

The Habitat Regulations do provide the means of prosecuting individuals and organisations that commit offences against scheduled species and habitats, but their main effect is to place a duty on national and local government to ensure the survival of populations of these species and their habitats, through policy, legislation and the planning process. A judicial review has provided a judgement that planning authorities are expected to ensure that a development meets the requirements of the Habitats Regulations before granting planning consent. This applies whenever the likely presence of an EPS is a material consideration. (*Wooley vs Cheshire East Borough Council and Millennium Estates Ltd*, June 2009, see Natural England Statement)

The 2017 Regulations carry forward the amendments that led to the 2010 Regulations, which modified the definition of an ‘offence’ to make the Regulations consistent with the equivalent offence in the WCA 1981, and broadened the scope for proceeding without a licence. The 2010 Regulations did not allow the defence that harm was caused ‘as an incidental result of a lawful operation and could not reasonably have been avoided’, but did allow for legal low level

disturbance provided that it does not *‘Deliberately disturb animals of an EPS in such a way as to be likely to significantly affect 1) the ability of a population of that species to survive, breed or rear or nurture their young, or 2) the local distribution of the species.’* The Regulations include protection for habitats that are important for hibernation and migration. They establish a requirement for ministerial approved guidance to clarify the scope of offences and to help developers consider whether their operations are likely to breach regulations & require licensing. Most importantly, the current DEFRA guidance (relating to the 2009 amendments) states that *‘current changes retain the requirement that for the offence to be committed, the result of disturbance must affect important life cycle processes and so low level or inconsequential disturbance that does not have these impacts is not captured by the offence in these Regulations,’* and that *‘in most cases it is not expected that an action which disturbed a single animal or a small number of animals would have sufficient impact to be caught by the offence’* unless that EPS were to become *‘particularly rare’*. Updates to this guidance are likely to appear after 2019, in response to the new regulations and the emerging Environment Act.

The Protection of Badgers Act 1992 (The Badgers Act): The Badgers Act is intended to prevent deliberate cruelty and other actions that cause suffering to badgers, rather than to meet a conservation purpose. Badgers are common and widespread, with no apparent threat to the UK population as a whole. Potential causes of harm, disturbance or suffering are from construction work in the vicinity of their holes and loss of foraging area within the territory of a social group.

PLANNING POLICY

The Local Plan for a planning authority area is based on local needs and conditions, in relation to government policy expressed in Planning Policy Statements such as the National Planning Policy Framework 2019 document, Chapter 15, *Conserving and enhancing the natural environment*, Ministry of Housing Communities and Local Government 2019. In response to local values, the national policy documents, and other expressions of concern for nature conservation, local plans contain policies to protect biodiversity and habitat features of local and national importance. Local Plans are sometimes replaced by Local Development Framework document sets, which comprise a Core Strategy, Site Allocations or Area Plans, and Supplementary/Local Planning Documents. There is usually a separate SPD or LPG for Nature Conservation, stating policies and the level of mitigation expected.

The UK government has also provided a circular advising on statutory obligations to conserve biodiversity and geological features within the planning system, DCLG Circular 06/2005. Paragraph 99 of this states that ‘It is essential that the presence or otherwise of protected species, and the extent that they may be affected by the proposed development, is established before the planning permission is granted ...’. Paragraph 99 goes on to affirm that survey and planning requirements must be proportionate to likelihood and risk.

The Natural Environment and Rural Communities Act 2006 and the Environment (Wales) Act 2016 place a duty to conserve biodiversity on all public authorities. The Environment Act 2021 strengthens this. Local planning authorities will respond to this through the implementation of policies and procedures. The NPPF includes a requirement for local authorities to seek benefits to local biodiversity as a planning gain from any planning consents.

National and local organisations, including local government, have developed national and local Biodiversity Action Plans (BAP). These include action plans to conserve named species, which may or may not receive statutory protection. The UK BAP is no longer current, replaced by the UK Habitats Framework 2010. The present focus of UK policy is on landscape scale habitat improvement. National (Wales, England, Scotland) policies are in place, these reference Priority Species and Habitats. Paragraph 84 of the DCLG Circular and the NERC Act makes it clear that, in addition to legal provisions, UK and Local Biodiversity Action Plan habitats and species or their equivalents are a material consideration in planning decisions and therefore require the same scrutiny.

As a consequence of the Wooley vs Cheshire East decision, planning authorities now seek a higher level of survey information and mitigation detail, approaching that required for an EPS licence application, before planning consent is granted. This means that it is even more important to start the ecological survey process at the very beginning of a project, which will allow the likely costs of full survey and mitigation to be determined, and can allow enough time to gather complete survey data in the appropriate season.

Planning authorities may now expect to be provided with evidence that ecological survey work has made significant progress before they will validate a planning application. This may take the form of a scoping report or an initial survey report.

LICENSING

Licences from Natural Resources Wales are needed where a development will have a direct adverse impact on EPS and some other species, or where there is potential for significant impact on a local population. Licences in effect permit

some otherwise illegal actions under strict conditions. The licensing process is lengthy and demanding in the case of European Protected Species, and is not part of planning consent. Licences may be needed for other work that does not require planning consent. Natural Resources Wales grants EPS licences for development projects in Wales, and will not consider an application until outline consent has been given, if consent is needed. The licence itself will not normally be granted until full planning permission has been given. Licensing authorities expect that licence applications should be based on extensive survey of the local population. Some different arrangements may apply in the case of major public projects and projects that will take place in phases over several years.

SPECIES

Badgers

Badgers are protected under the Badgers Act, from activities that can cause suffering. Vibration from construction plant can cause disturbance, and possibly the collapse of holes. Past Natural England guidelines have suggested that development needs licensing if it involves work within certain distances of a sett (any permanent place of shelter, typically 1 or more holes): heavy construction plant within 30m, light plant within 20m, and hand tools within 10m. Current advice is that the potential impact should be assessed on a site specific basis by an experienced ecologist or a badger specialist. Pile driving and similar operations always need site specific consideration. Licences may be needed and are granted by NRW for development or archeological activity, or by the Welsh Government for other activities.

Loss of foraging area may be an important factor – badger social groups (clans) probably need at least 3.5ha of permanent grassland or an equivalent woodland resource. Where there are close spaced clans a development project may result in starvation or injury from fighting. Survey should take place in winter, but may need to continue up to the start of development. Licenses are not granted for any actions taking place during the breeding season (1st December – 30th June).

Bat species

All 18 British bat species have EPS status, protected under the WCA and the Habitat Regulations. Bats use a sequence of roosts in an annual cycle, for shelter and breeding. Roost requirements differ between species and suitable roosts are used repeatedly; particular roosts may be critical for the survival of a local population. Legal protection can therefore cover roosts even when they are not occupied. Roost sites include hollows and smaller flaws in trees, roof spaces in houses and other buildings, walls with insulation cavities, wall cladding, cracks and hollows, and caves, cellars and mines. Recently built properties may be used, and most traditional concepts of bat roosts and behaviour are misleading.

Initial bat surveys to check for unknown roosts can take place at any time, but may be less effective in winter, while ‘likely absence’ often cannot be determined without activity survey involving several visits between May and September. A site with bat activity in the vicinity and suitable roost features, or key habitat features around it, will need careful investigation. A licence may be granted by NRW for a development, but will require a high level of survey before applying.

Otters

Otters have EPS status, protected under the WCA and the Habitat Regulations. They are solitary and territorial, typically marking several kilometres of a watercourse as a territory. Otters hunt for fish in water but often travel on land and may move away from the sides of watercourses. They may also use canals. Development issues often centre on not severing territories or dispersal routes, not causing disturbance at night and not disturbing otter holts. Survey can be at any time, but is less reliable in winter. Licensing is possible, but the need is normally removed by design and site management.

Dormice

The native Hazel Dormouse has EPS status, protected under the WCA and the Habitat Regulations. They typically occupy areas of dense old woodland and networks of dense hedgerows where there is high species and structural diversity, but are not restricted to these habitats. They avoid open ground, but spread along hedges and woodland edges. Dormice presence should be considered in any scheme that involves removal of hedgerows, woodland or dense undergrowth in areas that are linked by similar habitat to old hedgerow networks and woodlands.

Survey is difficult, and effective survey may be restricted to autumn and winter or require long-term methods.

Water Voles

Water voles received limited legal protection under the WCA in 1998, but the protection was extended in 2008, so the water vole is now fully protected under Section 9. It is an offence to intentionally kill, injure or take (capture) a water vole; possess or control a live or dead water vole, or any part of a water vole; intentionally or recklessly damage, destroy or obstruct access to any structure or place which water voles use for shelter or protection or disturb water voles while they are using such a place; sell, offer for sale or advertise for live or dead water voles.

There is no provision under the WCA for licensing what would otherwise be offences for the purpose of development, maintenance or land management. Such activities must be covered by the formal defence that permits otherwise illegal actions if they are an incidental result of a lawful operation and could not reasonably be avoided. The defence requires that reasonable steps are taken to avoid unnecessary harm or damage. For developers, this can best be achieved by undertaking a water vole survey at the appropriate time prior to planning any work and ensuring that appropriate avoidance or mitigation measures are included in the proposals. Survey can take place throughout the year, but is less reliable in winter. Water voles need sloping earth banks on the sides of water bodies, a good mix of plant food, and refuge from high water levels. The introduced American mink is a critically significant predator, which limits the distribution of water voles.

Fully protected bird species

About 80 bird species are listed in Schedule 1 of the WCA; these are in effect fully protected species. The great majority of these are limited to a few areas of Britain, typically in mountainous, wetland or coastal habitats. There are 3 winter migrant species that can occur throughout Britain; brambling, fieldfare, and redwing. These may occasionally breed in parts of the UK including Wales, but are unlikely to be an additional issue in development schemes. A further 4 species breed in lowland Wales and may occur on or close to development sites; kingfisher, barn owl, black redstart and little ringed plover. These all have particular requirements for their breeding sites. Little ringed plover presents a particular problem as it selects nest sites on gravel close to open water. This habitat can be created accidentally in the course of construction work.

Breeding birds

All birds are protected while breeding in the UK, under the WCA. They are protected from killing, injuring, disturbance, destruction of nests and nest sites, and from the taking of eggs. Almost any habitat will provide potential nest sites for some species, including temporary habitat created by construction work. This potentially imposes a severe constraint on development, but the constraint can be avoided by careful timing of site clearance and good site management. Sites should be cleared of cover between late August and early March. Other conservation issues mean that the best periods for site clearance are late September to the end of October, or mid February to early March.

Reptiles

Grass snake, adder, slow worm, and common lizard are widespread reptile species that are partially protected under the WCA. Their protection is against killing, injuring and sale. 'Fear of snakes' is not an acceptable reason for harming any reptiles, and provides no defence against prosecution. These species are often listed in Biodiversity Action Plans, and thus may be a planning issue requiring precautions and habitat mitigation. Survey is not effective in winter, and full survey can be time consuming.

For reptile species the conditions that apply to the 'incidental result' defence (see water vole notes) are particularly relevant; reasonable effort has to be made to avoid harming them. Because they are hard to find and seek shelter when disturbed it is usually necessary to capture and remove them before development begins.

Two fully protected reptiles, smooth snake and sand lizard, are limited to sites in the south of England and to western coastal areas, including (for sand lizard) the Welsh coast.

Great crested newts

Great crested newts have EPS status, fully protected under the WCA and the Habitat Regulations.

They are amphibians that breed in water but hibernate and forage on land. Typical breeding ponds are small, fish free, with aquatic vegetation, and close to other similar ponds. Good land habitat has areas of dense vegetation and hedge banks or loose material that provide shelter. Populations are often localised, and newts may use habitat that is not particularly favourable. They generally remain within 100m of breeding ponds, but can spread further, with 500m being the generally accepted limit.

Survey can take place between mid February and mid September, but the March to June period is most important. Considerable survey effort may be needed to show that newts are probably absent from any site with or close to suitable ponds.

One survey option is environmental DNA testing (eDNA) of water samples from the pond, with sampling carried out by a gcn survey licence holder between mid April and the end of June. A 'not present' result is not as definite a proof of absence as a nil return from a full trapping and torching programme, but may be accepted by planning authorities.

Other amphibians

Natterjack toad, a European Protected Species, is rare and appears to be limited to a few known sites. The pool frog, which is an EPS as of October 2008, currently has limited populations found in a very few known sites in the UK.

Common frog, common toad, smooth newts and palmate newts all have partial protection under the WCA, from sale and associated activities only. Populations in urban areas may be vulnerable, so are included in some local Biodiversity Action Plans.

White clawed crayfish

The endangered native crayfish is partially protected, from taking and sale. Non-native species carry a disease that is fatal to the native species, so must not be introduced or returned to any water bodies, and if taken must be killed. This means that any 'capture' of a crayfish can result in an offence, and accidental introduction of non-native crayfish or their diseases must be avoided. Native populations are now restricted to some streams, large pools and isolated sections of canal. Licences are needed for most forms of survey, which is effectively limited to the April to October period.

Other fully protected species

There are many more plant and animal species that have EPS status or fully protected status, including for example some fish, rare aquatic plants, and some beetles and lichens associated with veteran trees. These species, such as the floating water plantain, violet click beetle and the pearl mussel are usually restricted to known and protected sites.

Other priority, BAP and listed species

Planning policies often include protection for UK Priority species and local BAP species, and as a planning matter this protection will relate to their habitat rather than the individual organisms. This protection may also extend to 'red data book' species, 'birds of conservation concern' (British Trust for Ornithology listing) and UK rare or notable species. Some local BAP plans also have broad categories such as 'all solitary wasps and bees', 'farmland birds' or 'all wild native orchids'. Many of these species are well known, such as skylarks, lapwings and fritillary butterflies, but others are very obscure and would not normally be considered in a pre-planning ecological survey. In general, any planning application that affects old trees, long-established woodland, wetland, hedgerows and heathland, and diverse grassland of any age on thin soils, needs to protect these habitats as far as possible.

Plant species

The sites where protected, rare or valued plants are found have mostly been recorded and would be reported in record searches, but care needs to be taken around relatively unimproved or undisturbed habitats. No plants should be uprooted or parts of plants collected without the owner's permission.

There is a minor issue concerning bluebells; the true wild native bluebell is protected against commercial harvesting, through protection against sale under the WCA. Hybrid bluebells are often found growing wild, but true native populations should be conserved and where unavoidably dug up in the course of development should not be traded in any way.

Schedule 9 plant species

These are certain invasive non-native plants that can cause serious harm to semi-natural habitats. Japanese knotweed is the classic example and has been on the schedule for many years, but the schedule has been expanded in recent years to include several water plants sold by nurseries as 'oxygenating plants', and some shrubs commonly used in landscape schemes, including five cotoneaster shrubs.

It is in effect an offence to remove any part of these plants in a live condition from a development site without special provision for handling and disposing of them; soil and rubbish or brash including their live roots and shoots are best

considered as a form of toxic waste and can incur high tip charges. Destruction or eradication on site, before work begins, is the best approach. In the case of Japanese knotweed this can take several years, and in the case of water plants ponds may need to be completely drained down.

Sources of information

The most reliable information comes from the websites of government organisations, government sponsored organisations and local government:

Natural Resources Wales: www.naturalresourceswales/protected species

The NRW site provides information about different licensing arrangements in Wales, and very helpful advice for developers

Natural England: www.gov.uk/government/organisations/naturalengland/services-information. The NE advice is generally less clear than the NRW advice, but the GCN licence pages do contain useful risk assessment tables.

Scottish Natural Heritage: www.snh.gov.uk species licensing section

Scottish law is a little different, but the SNH website provides some very clear summaries of the protected species issues

For all of the above it is easiest to simply do an online search, inputting the name of the organisation and 'protected species', although it is worthwhile to look at the wider information around species conservation.

Local government websites contain planning advice and usually have links to their nature conservation SPD and the local biodiversity action plan. The local BAP can be accessed by searching on the city or county name and 'BAP'.

www.nonnativespecies.org is a government sponsored body and provides very good information on invasive species, although it is not specifically aimed at development-related issues

Some conservation organisations are very scientific in their approach and their websites provide sound information on the various species involved:

www.arctrust.org/planning for amphibians and reptiles

www.bats.org.uk go to planning through 'search' or 'I am looking for' and to 'about bats' for species details

www.bto.org and go to 'bird facts' for species information

And, finally:

Stories about protected species in the national and local media, and in magazines aimed at particular interest groups, are very often misleading and wrong in many details. Easy target, cheap headlines, they are not going to get sued for libel by a newt.

These notes are presented as the view of ecologists, based on the understanding of wildlife law and planning policy gained in the course of that work and on advice given in various official publications. These notes are not formal legal advice, which should be sought from members of the legal profession with specialist knowledge of wildlife law.