

Report Title	Proposed Spine Road and Development Plateaus, Western Gateway, Wrexham Technology Park, Wrexham - Ecological Impact Assessment Ecological Background Data Search
Client	Wrexham County Borough Council
Date	November 2012



this report was produced by



Pant Y Ffynnon, Yr Ochr, Froncysyllte,
Llangollen, LL20 7RS.
01691 777381

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Registered address: Unit 23, The Malthouse Business Centre, Regent Street, Llangollen, Denbighshire, LL20 8HS.

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Authors	Tom Knight and Max Ellson

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1 INTRODUCTION

1.1 Project Background

- 1.1.1 Marches Ecology was commissioned by Wrexham County Borough Council (WCBC) to undertake an Ecological Impact Assessment (EclA) of a proposed new (spine) road and creation of development 'plateaus' at the 'Western Gateway' development site; part of the Wrexham Technology Park, Wrexham (OS Grid Ref. for central point: 331724, 350389). The spine road would include the construction of a new roundabout junction on the A525 Ruthin Road. The site extends to 209,959 m² including existing roads (20.99 hectares).
- 1.1.2 The proposal concerns construction of a spine road to provide access to a future mixed use development to include employment development and residential housing. It also includes the creation/ clearance of 'plateaus' within areas earmarked for future development. This EclA is provided in support of the planning application for the spine road, Junction 2 (the new roundabout on the A525 road at the junction of the B5098 Berse Road), realignment of a section of the A525 east of the A483 interchange and the earth-works to establish the future development plateaus only. Construction of the primary infrastructure would also involve installation of highway drainage and lighting, fencing and services along with landscaping, ecological mitigation/ compensation areas and other associated works. Development within the individual plots (plateaus) is likely to be provided over several phases; the design of individual buildings and layout of related infrastructure is to remain flexible, they will be subject to separate planning applications (and ecological assessment) at such time as a plot is brought forward. The location of the proposed site is shown in *Figure 1*.
- 1.1.3 The ecological background data search and review had two principal aims:
- to identify existing ecological resources, and thereby establish the baseline condition, within a potential zone of influence through desk-top study; and
 - to detail any requirement for field survey indicated by the results of the desk-top study.
- 1.1.4 This ecological background data search informs, and should be read in conjunction with, the full EclA (Marches Ecology 2012a). A separate confidential report has been produced with regards Badger (*Meles meles*) (Marches Ecology 2012b). Records of Badger collated during the background data search are included in Marches Ecology (2012b). Both of these reports compliment the EclA report and all three documents should be considered together.
- 1.1.5 It should be noted that the background data search for the Western Gateway project was undertaken in 2008. The project at this time concerned a larger area of land, including land to the east of Croesnewydd Road that is no longer included within the current application site. The background data search included all of the land within the current application boundary. As such the search area is slightly larger than would otherwise have been defined for the current planning application site. This does not affect the findings and conclusions of the background data search. Henceforth the current application site will be referred to as the 'proposed development site' while the area of land utilised at the time of the background data search will be referred to as the 'previous development site'.

1.2 The Proposed Development

- 1.2.1 The following provides a brief summary; Marches Ecology (2012a) should be referred to for full details. The current planning application concerns the construction of primary infrastructure to serve future development of the next phase of Wrexham Technology Park and would improve traffic movements for Wrexham Maelor Hospital and Wrexham town centre. This proposal will facilitate the future development of available plots on the Western Gateway site. The EcIA does not consider this future development as there is currently no information available on what form such development may take or when it might proceed. The primary concern of the EcIA is therefore the proposed infrastructure and clearance/formation of development plateaus.
- 1.2.2 The proposed development includes the following 'enabling' works:
- Improvement works to the A483(T) Wrexham By-pass/ A525 road interchange;
 - Realignment of a section of the A525 road to the east of the A483(T) Wrexham By-pass interchange;
 - Construction of a new roundabout on the A525 road at the junction of the B5098 Berse Road and the proposed new spine road (Junction 2). The Berse Road will be extended east to join the new Ruthin Road roundabout from the south;
 - Construction of a new spine road through the Western Gateway site linking Junction 2 with the highway improvement scheme at Junction 3 on Croesnewydd Road. The spine road is approximately 600 m in length with an 11 m wide carriageway;
 - Earthworks and vegetation clearance for future development plateaus across the Western Gateway site, including the proposed future residential area adjacent to Croesnewydd Road. Creation of the development plateaus would involve significant earthworks (e.g. lowering the existing ground by over 3 m in places);
 - Provision of highway drainage (using a Sustainable Urban Drainage system - SUDs), highway lighting, fencing, services, landscaping, ecological mitigation areas, and other associated works.
- 1.2.3 The proposed works contained within this planning application form Phase II of the Western Gateway project; a programme of works designed to provide substantial improvements to the local road network along with provision of plots for employment development and residential housing. The objective is to secure a CEEQUAL (Civil Engineering Environmental Quality & Assessment Award Scheme) 'Excellent' award for these works at client, design and contractor stage. The layout of the development plots, buildings and internal roads, etc (other than the spine road) will be the subject of separate planning applications as the plots are brought forward for development. Phase I of the programme concerns the highway improvement scheme on Croesnewydd Road at 'Junction 3'. Phase I commenced in 2012 and is being completed as permitted development. As such it does not form part of this study/ planning application.
- 1.2.4 The Western Gateway 'employment land' is identified in the Wrexham Unitary Development Plan as Wrexham: Ruthin Road Development Area (Ref. 39) and is allocated under Policy E1 for high quality (B1) employment development in accordance with Policy E2. Policy E2 establishes that '*Development will be low density, with buildings and hard surfaced areas of high quality design and materials set within an attractive natural and designed landscaped setting*'. The 'residential land' is identified as Ruthin Road (Ref. 21) and is allocated under

Policy H1 for housing development. The disused railway land (adjacent to the northern site boundary) is identified as a walking/ cycling route in accordance with Policy T10. The emerging Local Development Plan 2006-2021 (Deposit Plan) classifies the site as a Strategically Important Employment Area. The 'employment development areas' and 'residential development area' are shown on a WCBC plan entitled '*Indicative Development Plan*' Drawing no. T07701/6000/C dated 19/09/12 (hereafter referred to as the IDP) which forms part of this planning application.

- 1.2.5 The planning application site extends to 209,959 m² (20.99 hectares). This would include 27,065 m² for the primary infrastructure works with 84,750 m² provided as employment development land and 17,864 m² as residential development land. 71,632 m² is to be provided as 'Ecological Areas' in mitigation/ compensation for development of the site. A further 8648 m² will form 'Landscape Areas'.
- 1.2.6 WCBC's long-term vision for the site concerns an exemplar mixed use but sustainable development; an extension to the existing Technology Park and the creation of new affordable housing. The aim of the employment site is to attract high technology businesses while maintaining the highest environmental standards. It is currently envisaged that the Western Gateway development will be delivered over an approximate 10 to 20 year period in a series of phases. The delivery period will largely be determined by demand and market forces.
- 1.2.7 Further detailed information with regards this proposal is provided in the Design and Access Statement (WCBC 2012a) and the Planning Statement (WCBC 2012b).

1.3 Structure of this Report

- 1.3.1 The remainder of this report is structured as follows:

Section 2 lists the information sources consulted and organisations contacted;
Section 3 describes protected sites in the area;
Section 4 presents the species records;
Section 5 provides data on fisheries and water quality (associated with the River Gwenfro);
Section 6 provides information on biodiversity plans and strategies; and
Section 7 presents the conclusions.

Further sections give references and a summary of key legislation.

2 INFORMATION SOURCES

- 2.1.1 Ecological information was gathered from archival sources to provide background information on the ecological status of the site and its surroundings. Locations of designated sites are provided in *Figure 2* and responses from consultees (where appropriate) are provided in the appendices.
- 2.1.2 Statutory organisations and other relevant bodies were contacted to request information within three search areas. These search areas and data requirements were identified following a brief review of available information regarding the proposed development in order to delineate a potential zone of influence. The extent of each search area was subsequently defined using standard guidelines for Ecological Impact Assessment (EclA) (e.g. Institute of Environmental Assessment 1995; Institute of Ecology and Environmental Management 2006).
- 2.1.3 The following information was requested within 1 km of the previous development site:
- non-statutory designated sites for nature conservation (e.g. County Wildlife Site - CWS);
 - Ancient Woodland, or long-established semi-natural woodland;
 - species protected by the *Wildlife and Countryside Act 1981* (as amended);
 - species protected by European directives;
 - species listed in the UK Biodiversity Action Plan (UK BAP), Wrexham Biodiversity Action Plan (WBAP), *Section 42* of the *Natural Environment and Rural Communities Act 2006* (referred to in the text as '*Section 42* species');
 - red data book species;
 - other species listed as scarce or notable in literature issued by conservation organisations or learned societies.
- 2.1.4 The following information was requested within 2 km of the previous development site:
- international and national statutory sites for nature conservation (e.g. RAMSAR, SPA, SAC, SSSI, LNR).
- 2.1.5 The following information was requested within 5 km of the previous development site:
- Records of all bat species.
- 2.1.6 Information was requested on other organisations and other relevant local wildlife groups to contact, e.g. bat, local mammal, herpetofauna and bird groups. Specific information was also requested from Environment Agency Wales regarding fish and water quality data for the River Gwenfro.
- 2.1.7 Widely available contextual information was consulted as follows:
- the National Biodiversity Network Gateway (<http://data.nbn.org.uk/>);
 - the MAGIC (Multi-Agency Geographical Information for the Countryside) environmental database (<http://www.magic.gov.uk>);
 - UK BAP (DoE 1995, UK Biodiversity Steering Group, 1998a & b, 1999a, b & c);
 - Wrexham BAP (Wrexham County Borough, 2003), available online at: http://www.wrexham.gov.uk/english/planning_portal/biodiversity/wxmbap.htm);

- Wrexham LANDMAP (http://www.wrexham.gov.uk/english/planning_portal/landmap/spg.htm); and
- the Countryside Council for Wales 'Protected Sites' web-site <http://www.ccw.gov.uk/interactive-maps/protected-areas-map.aspx>.

2.1.8 *Table 1* lists the statutory organisations and other relevant bodies that were contacted and presents a brief description of the consultation process.

Table 1 – Summary of consultation.

Organisation	Contact date	Date reply received and summary
Countryside Council for Wales (Matthew Ellis, Regional Species and Biodiversity Officer)	07 th October 2008	13th October 2008. Map provided indicating locations of bat, Great Crested Newt and reptile records, as well as a Site of Special Scientific Interest (Gatewen Marsh).
Wrexham County Borough Council (Zara Lomax, Ecologist)	07 th October 2008	14th October 2008. Information regarding County Wildlife Sites and protected species records within search area held by the Council obtained during an office visit.
Cofnod (North Wales Environmental Information Service)	07 th October 2008	27th October 2008. Comprehensive report and associated maps received indicating one statutory national site, ancient woodland, non-statutory Wildlife Sites, protected/notable species records within 2 km of the previous development site and bat records within 5 km of the previous development site. Species records include data provided by the following organisations: North East Wales Amphibian and Reptile Network, NE Wales Bat Roosts Database, Countryside Council for Wales and the National Biodiversity Network, as well as records uploaded onto the Cofnod Online Recording System.
Clwyd Bat Group	07 th October 2008	No information provided.
North East Wales Wildlife Trust	07 th October 2008	No information provided.
Environment Agency Wales	12 th November 2008	28th November 2008. Excel data supplied for water quality sampling records from three locations on River Gwenfro between 2000 and 2008. Data supplied on fish sampling exercise at one location on River Gwenfro in 2007.

2.1.9 The response from Cofnod is reproduced as *Appendix 1* ('Public Version' only; see *Section 4.1*).

3 PROTECTED SITES

3.1 Statutory Designated Sites

- 3.1.1 There is one statutory designated site within the 2 km search area; Gatewen Marsh Site of Special Scientific Interest (SSSI) (refer to *Table 2* below and *Figure 2*). SSSIs are of national importance and are designated under *The Wildlife and Countryside Act 1981* (as amended), and are also affected by the *CRoW Act 2000*. The summary description in *Table 2* is adapted from the individual site citation sheet available from the Countryside Council for Wales.

Table 2 – Statutory Designated Sites

Site name and designation	Grid Reference	Approximate distance from proposed development site boundary	Summary Description
Gatewen Marsh SSSI	SJ 317 515	650 m	Gatewen Marsh is designated as it is one of only three significant examples in the former county of Clwyd of the “southern mesotrophic mires” wetland type. This type is more characteristic of south-west Wales. The site occupies the flat valley bottom of a tributary of the River Gwenfro, the stream running through the eastern side of the marsh. The marsh is unusual in containing substantial stands of Bulrush in shallow water with other plants including Brooklime, Water Plantain and Bottle Sedge. The fringes of these areas support stands of Common Spike-rush with Water Mint, Gipsy-wort, Narrow-leaved Water-parsnip and Lesser Spearwort. There are also stands of Great Pond-sedge and Bur-reed with Reed-grass on the fringes and Broad-leaved Pondweed in open channels.

- 3.1.2 In addition to the above, the River Gwenfro (that partly bisects, and is partly located immediately adjacent to, the proposed development site) is directly linked to the River Dee and Bala Lake/ Afon Dyfrdwy a Llyn Tegid SSSI/ Special Area of Conservation (SAC), via the River Clywedog. The River Dee SSSI/ SAC is located approximately 15.1 km downstream of the proposed development site boundary. SACs are areas of European importance designated under *The Conservation of Habitats and Species Regulations 2010* (as amended).
- 3.1.3 *Annex I* habitats that are a primary reason for selection of the SAC are ‘Water courses of plain to montane levels with the *Ranunculus fluitantis* and *Callitriche-Batrachion* vegetation’. Atlantic salmon (*Salmo salar*) and Floating water-plantain (*Luronium natans*) are *Annex II* species that are a primary reason for selection of the site. Sea lamprey (*Petromyzon marinus*), Brook lamprey (*Lampetra planeri*), River lamprey (*Lampetra fluviatilis*), Bullhead (*Cottus gobio*) and Otter (*Lutra lutra*) are *Annex II* species which are present as a qualifying feature.

3.2 Non-statutory Designated Sites

- 3.2.1 There are three Wildlife Site (WS) within the 1 km search area (refer to *Table 3* and *Figure 2*). The summary description in *Table 3* is adapted from the individual site citation sheets available from WCBC.

Table 3 – Non-statutory Designated Sites

Site name and reference	Grid Reference	Approximate distance from proposed development site boundary	Summary Description
Berse Drelincourt (W335)	SJ315507	50 m (separated from site by A483)	This site comprises a mosaic of semi-natural habitats including neutral grassland and a stream corridor with wooded banks. It directly borders an old mineral railway.
Erddig Estate (W317)	SJ330484	1 km	National Trust estate with woodlands, semi-improved neutral grasslands and marshes.
New Broughton Meadow (W334)	SJ306513	950 m	This site comprises a mosaic of semi-natural habitats including a pond, wet Alder/ Willow carr, marsh and neutral grassland, particularly associated with an old mineral railway.

- 3.2.2 Three additional Wildlife Sites lie just outside the 1 km search area: Higher Berse Marsh (W333), Moss Valley (W311) and Big Wood (W217).
- 3.2.3 The criteria used to select Wildlife Sites in Wrexham county borough have been developed in conjunction with North Wales Wildlife Trust, Countryside Council for Wales and other local authorities. WCBC identify Wildlife Sites as follows:
- 'areas of substantive value including both the most important and most distinctive species, habitats, geological and geomorphological features within a national, regional and local context'.*
- 3.2.4 Cofnod have provided information on Ancient Woodland – a small part of one area associated with Erddig Estate WS is located within the 1 km search area (approximately 1 km to the south-east at its closest point). Another stand associated with Big Wood WS is located approximately 1.1 km to the south-west.

4 SPECIES

4.1 Introduction

4.1.1 Cofnod provided the following species records:

- **Category 1 Species:** species with International or UK Legal Protection, *Section 42* [NERC] Species and UK BAP Priority Species;
- **Category 2 Species:** Global Red List, British Red Data Book, Rare & Scarce, and Welsh Red and Amber Birds, where these are not identified in Category 1; and
- **Category 3 Species:** LBAP Species not identified under Categories 1 & 2.

4.1.2 Data on the following species groups was provided:

- mammals (Badger, Otter, Bats (several species), Hedgehog, Polecat, Stoat);
- amphibians (Great Crested Newt);
- reptiles (Slow-worm, Grass Snake, Viviparous Lizard); and
- invertebrates (several Moth species and a Dragonfly).

4.1.3 Species records were provided for a 1 km search area centred on the previous development site, and a 5 km search area for bats as requested. The species records included data provided by North East Wales Amphibian and Reptile Network, NE Wales Bat Roosts Database, Countryside Council for Wales and the National Biodiversity Network as well as individual and incidental records uploaded onto the Cofnod Online Recording System.

4.1.4 Cofnod provided two sets of species records – a set which includes detailed grid references and which are not authorised for release into the public domain, and an additional ‘Public Version’ where the accuracy of some of the grid references has been reduced (*i.e.* whereby six-figure grid references have been reduced to four-figure grid references). ‘Public Version’ records are utilised in this document. Although this has not allowed exact measurement of the distance from the proposed development site or location of the records, the reduced accuracy is not considered to affect the overall conclusions provided. A few records have a six-, or ten-figure grid reference which has enabled an approximate measurement of the distance from the proposed development site boundary to be undertaken. In these cases, distances are recorded from the edge of the proposed development site. The proposed development site is located in the 1 km grid squares SJ3150.

4.1.5 Maps indicating the location of the records were provided by Cofnod, although these were not provided for the ‘Public Version’. A summary of all the records is presented in the sections below.

4.2 Bats

4.2.1 All species of British bat are listed on *Schedule 5* of the *Wildlife and Countryside Act 1981* (as amended), and receive full protection under *Section 9*. They are also listed as European Protected Species on *Schedule 2* of *The Conservation of Habitats and Species Regulations 2010* (as amended) which gives them full protection under *Regulation 40(1)*. Protection was extended by the *Countryside and Rights of Way Act 2000* (the *CRoW Act*).

4.2.2 Under the above legislation it is an offence to intentionally or recklessly:

- kill, injure or take an individual of such a species;
- possess any part of such species either alive or dead;
- damage, destroy or obstruct access to any place or structure used by such species for shelter, rest, protection or breeding;
- disturb such a species whilst using any place of shelter or protection; or
- sell or attempt to sell any such species.

4.2.3 Several species of bat, including the Common Pipistrelle (*Pipistrellus pipistrellus*) are included as priority species in the UK BAP and also as species of principal importance for the conservation of biological diversity in Wales under *Section 42* of the *NERC Act*. The WBAP includes a Species Action Plan (SAP) for Lesser Horseshoe Bat (*Rhinolophus hipposideros*).

4.2.4 All species of British bat are also protected under *Schedule 6* of the *Wildlife and Countryside Act 1981 (as amended)*. This protection relates specifically to trapping and direct pursuit of the species.

4.2.5 Records supplied by Cofnod were from a 5 km search area and are summarised in *Table 4* below. Records were provided with a four-figure grid reference and it was therefore not possible to determine distance from the proposed development site. The status (e.g. roosts or otherwise) of these records was also not provided. CCW provided a number of bat records located on a map – these corresponded with the records provided by Cofnod and are not detailed further below. The NBN gateway does not include any additional records.

4.2.6 No bat records occur within the proposed development site boundary, although one record is from the same grid square as the proposed development site – a 1999 record for *Plecotus auritus* (Brown Long-eared Bat).

Table 4 – Bat records provided by Cofnod – 5 km search area

Species name	No. of records within 5 km search area	Dates	Summary (Grid reference)
<i>Pipistrellus pipistrellus</i> (Common Pipistrelle)	42	From 1985 to 2003	1 record – SJ3155, SJ3647, SJ3046, SJ3152, SJ2651, SJ2947, SJ3245, SJ3453, SJ3454, SJ3449, SJ3153, SJ3349, SJ2945, SJ3346, SJ2946, SJ3445 2 records – SJ3151, SJ3251, SJ3355, SJ3452, SJ2851, SJ3148, SJ3547 3 records – SJ3249, SJ3051, SJ3551, SJ3248
<i>Chiroptera</i> species	36	From 1982 to 2004	1 record – SJ3248, SJ3452, SJ2954, SJ3155, SJ3152, SJ3349, SJ3347, SJ3354, SJ2952, SJ2955, SJ3051, SJ3355, SJ3247, SJ2752, SJ3053, SJ2850, SJ2847, SJ3348, SJ3249 2 records – SJ3250, SJ3148, 3 records – SJ3547, SJ3551, SJ3350

Species name	No. of records within 5 km search area	Dates	Summary (Grid reference)
			4 records – SJ3449
<i>Plecotus auritus</i> (Brown Long-eared Bat)	10	From 1987 to 1999	1 record – SJ3248, SJ3147, SJ3049, SJ3549, SJ3450, SJ3451 2 records – SJ3150, SJ3149
<i>Pipistrellus</i> species	7	2000 to 2003	1 record – SJ2749, SJ3045, SJ3447 2 records – SJ3249, SJ3253
<i>Plecotus</i> species	5	1987	1 record – SJ3248 4 records – SJ3149
<i>Rhinolophus hipposideros</i> (Lesser Horseshoe Bat)	3	From 1999 to 2000	3 records – SJ2850
<i>Myotis daubentonii</i> (Daubenton's Bat)	2	1998	2 records – SJ3455
<i>Myotis</i> species	2	1996 and 1999	1 record – SJ3348, SJ3247
<i>Myotis mystacinus</i> (Whiskered Bat)	1	2000	SJ2847

4.3 Otter

4.3.1 The Otter (*Lutra lutra*) is listed on *Schedule 5* of the *Wildlife and Countryside Act 1981* (as amended), and receive full protection under *Section 9*. The 1981 Act was amended by the *Countryside and Rights of Way Act 2000* (the CRoW Act) which further extends the protection. It is also listed on *Annexes II and IV* of the European Union Directive on *Natural Habitats and Wild Fauna and Flora (Council Directive 92/43/EEC)*, which is implemented in the UK by *The Conservation of Habitats and Species Regulations 2010* (as amended). It is included on *Schedule 2* of these regulations which gives it full protection under *Regulation 40(1)*. The Otter is therefore a so-called European Protected Species.

4.3.2 Under the above legislation it is an offence to intentionally or recklessly:

- kill, injure or take an individual of such a species;
- possess any part of such species either alive or dead;
- damage, destroy or obstruct access to any place or structure used by such species for shelter, rest, protection or breeding;
- disturb such a species whilst using any place of shelter or protection; or
- sell or attempt to sell any such species.

4.3.3 The Otter is also a UK BAP priority species and is included in *Section 42* of the *NERC Act 2006* as a species of principal importance for the conservation of biological diversity in Wales. The WBAP includes a SAP for Otter.

- 4.3.4 Cofnod provided one 2007 record for Otter from SJ319503 (near to the Croesnewydd Road culvert). This record is located within/ just outside the proposed development site boundary. The associated comments state the following '1 male Otter killed by dumper truck in this area, where road crosses River Gwenfro. Also an Otter road kill here on a separate occasion.' The NBN gateway does not include any additional records.

4.4 Other Mammals

- 4.4.1 Cofnod provided two records for West European Hedgehog (*Erinaceus europaeus*) and one record of Polecat (*Mustela putorius*) from the 1 km search area; these are summarised in Table 5 below. Both West European Hedgehog and Polecat are UK BAP priority species and are also included in Section 42 of the NERC Act 2006 as species of principal importance for the conservation of biological diversity in Wales. The NBN gateway does not include any additional records.

Table 5 – Other mammal records provided by Cofnod

Species name	No. of records within 1 km search area	Dates	Grid reference, location	Approximate distance from proposed development site
<i>Erinaceus europaeus</i> (West European Hedgehog)	2	2002 and 2003	SJ325500, Pwll Bwlch Gwyn, Brymbo Road, Wrexham SJ310513, Weston Road, New Broughton, Wrexham	0.7 km 0.9 km
<i>Mustela putorius</i> (Polecat)	1	2005	SJ306507, B5430, ½ mile east of Coedpoeth	0.7 km

4.5 Great Crested Newts

- 4.5.1 Great Crested Newts (*Triturus cristatus*) are listed on Schedule 5 of the Wildlife and Countryside Act 1981 (as amended), and receive full protection under Section 9. The 1981 Act was amended by the Countryside and Rights of Way Act 2000 (the CROW Act) which further extends the protection. It is also listed on Annexes II and IV of the European Union Directive on Natural Habitats and Wild Fauna and Flora (Council Directive 92/43/EEC), which is implemented in the UK by The Conservation of Habitats and Species Regulations 2010 (as amended). It is included on Schedule 2 of these regulations which gives it full protection under Regulation 40(1). The Great Crested Newt is therefore a so-called European Protected Species. The legislation applies to all life stages of the Great Crested Newt, including eggs, larvae, juveniles and adults.
- 4.5.2 Under the above legislation it is an offence to intentionally or recklessly:
- kill, injure or take an individual of such a species;
 - possess any part of such species either alive or dead;

- damage, destroy or obstruct access to any place or structure used by such species for shelter, rest, protection or breeding;
- disturb such a species whilst using any place of shelter or protection; or
- sell or attempt to sell any such species.

4.5.3 The Great Crested Newt is a priority species in the UK BAP which includes objectives and targets to protect and restore newt habitats and to create new sites through habitat management and re-creation. *Section 42* of the *NERC Act 2006* provides a list of habitats and species of principal importance for the conservation of biological diversity in Wales; the Great Crested Newt is included on this list. It also has a SAP in the WBAP.

4.5.4 Cofnod supplied one record for Great Crested Newt within the 1 km search area. CCW provided a number of records on a map as well as an excel spreadsheet. One record is located within the 1 km search area as follows: a 1996 record from SJ304502 (Plas Power Park), located approximately 0.75 km west of the proposed development site (from which it is separated by the A483 road). A further three records are located within the 2 km search area. The NBN gateway does not include any additional records.

4.6 Reptiles

4.6.1 Viviparous Lizard (*Zootoca vivipara*), Grass Snake (*Natrix natrix*), Slow-worm (*Anguis fragilis*) and Adder (*Vipera berus*) are all listed under *Schedule 5* of the *Wildlife and Countryside Act 1981* (as amended), in respect of *Section 9(5)* and part of *Section 9(1)*. This protection was extended by the CRow Act.

4.6.2 Under the above legislation it is an offence to:

- intentionally or recklessly kill or injure any individual of such a species; or
- sell or attempt to sell any part of the species alive or dead.

4.6.3 All four of the above listed reptiles are UK BAP priority species, are included in *Section 42* of the *NERC Act 2006* (as species of principal importance for the conservation of biological diversity in Wales) and are included on the provisional list of locally important/ endangered species in the Wrexham BAP.

4.6.4 Records for three species of reptile – Grass Snake, Slow-worm and Viviparous Lizard – were provided by Cofnod and are summarised in *Table 6* below. CCW provided the locations of three reptile records on a map (no details) one of which is the same location as a Cofnod record. A 2004 record for Viviparous Lizard is located within an adjacent grid square to that occupied by the proposed development site (SJ3250). The NBN gateway does not include any additional records.

Table 6 – Reptile records provided by Cofnod and CCW

Species name	No. of records within 1 km search area	Dates	Grid reference, location	Approximate distance from proposed development site
Slow-worm (<i>Anguis fragilis</i>)	2	1990	SJ324496, railway track, Wrexham	0.81 km
Grass Snake (<i>Natrix natrix</i>)	2	1990	SJ324496, railway track, Wrexham	0.81 km
Viviparous Lizard (<i>Zootoca vivipara</i>)	1	2004	SJ327502, Wrexham, 100+ on railway triangle site	0.63 km
Unknown	2	Unknown	Approx grid references estimated from CCW map – SJ325494 SJ326495	1 km 1 km

4.7 Invertebrates

- 4.7.1 Cofnod provided a small number of invertebrate records. Two species – *Allophytes oxyacanthae* (Green-brindled Crescent) and *Tyria jacobaeae* (Cinnabar) are UK BAP priority species and are also included in *Section 42* of the *NERC Act 2006* as species of principal importance for the conservation of biological diversity in Wales. Three others are listed on the Rare and Scarce List (Falk & Crossley 2005). These records are summarised in *Table 7* below.

Table 7 – Invertebrate records provided by Cofnod and CCW

Species name	No. of records within 1 km search area	Dates	Grid reference, location	Approximate distance from proposed development site
<i>Allophytes oxyacanthae</i> (Green-brindled Crescent)	1	1982	SJ324501, Wrexham Hospital	0.57 km
<i>Tyria jacobaeae</i> (Cinnabar)	2	1978 and 1982	SJ324501, Wrexham Hospital	0.57 km
<i>Campsicnemus pusillus</i>	1	1988	SJ318514, Gatewen Marsh	0.8 km
<i>Phaonia atriceps</i>	2	1988	SJ318514, Gatewen Marsh	0.8 km
<i>Pilaria scutellata</i>	3	1988	SJ318514, Gatewen Marsh	0.8 km

- 4.7.2 Additional invertebrate records are provided in Cheshire Ecological Services (2004), obtained during ecological surveys of the railway corridor between Gatewen and Croesnewydd Triangle in 2004. A total of 222 species were recorded along the entire length of the corridor (some of which is located within or immediately adjacent to the proposed development site boundary). A summary of the survey records is as follows (numbers of species associated with each category in brackets), specific details are only provided for the two nationally notable categories:

Nationally Notable (Scarce) Category A – Notable A (2)

- *Lassioglossum quadrinotatum* (a bee) – 1st record in Wales. Recorded from 'just above the [Maelor] hospital bridge'. Considered to be outwith the proposed development site boundary although this cannot be confirmed.
- *Cassida hemispherica* (Tortoise Beetle). No information provided on location of record.

Nationally Notable (Scarce) Category B – Notable B (3)

- *Hylaetus signatus* (Yellow-faced Flower-bee) – 2nd record for Wales. 'Several netted from behind the [Maelor] hospital.' Considered to be outwith the proposed development site boundary although this cannot be confirmed.
- *Apion pubescens* (a Weevil) – Recorded from 'behind the [Maelor] hospital'. Considered to be outwith the proposed development site boundary although this cannot be confirmed.
- *Chorisops nagatomii*. No information provided on location of record.

Unknown (5)

Local (25)

Common (183)

5 OTHER RECORDS

5.1 Introduction

- 5.1.1 Environment Agency Wales provided water quality and fisheries data for the River Gwenfro. This data is summarised below.

5.2 Water Quality

- 5.2.1 Water quality data was provided for three sampling point locations along the River Gwenfro, as follows:
- Willow Road (EA Wales sampling point ref: 167), estimated four-figure grid reference SJ2852 – located approximately 5 km upstream of the development site boundary.
 - Brook Street (ref: 165), estimated four-figure grid reference SJ3350 – located approximately 2 km downstream of the development site boundary.
 - Maelor Hospital Bridge (ref. 158), estimated four-figure grid reference SJ3250 – located approximately 400 m downstream of the development site boundary.
- 5.2.2 *Tables 8a-c* below provide a summary of the data provided.

Table 8a – Water Quality Summary for Sampling Point 167

Sample Point 167 (Willow Road, Samples taken between 01/01/2000 and 28/11/2008)			
	Average	Minimum	Maximum
pH (PHUNITS)	8.12	7.42	8.78
Conductivity @ 20C (uS/cm)	671	408	1101
Temp Water (CEL)	10.27	2.00	19.40
Conductivity @ 25C (uS/cm)	695	432	847
Dissolved oxygen % Saturation	99.6	80.2	116.0
Dissolved oxygen (mg/l)	11.4	9.6	13.5
Biochemical Oxygen Demand 5 day ATU (mg/l)	1.7	0.5	7.9
Chemical Oxygen Demand as O2 (mg/l)	33	12	228
Total Ammonia (mg/l as N)	0.099	0.010	1.150
Oxidised Nitrogen (mg/l)	3.146	1.299	6.260
Nitrate (mg/l as N)	3.12	1.26	6.25
Nitrite (mg/l as N)	0.0237	0.0040	0.2400
Un-ionised Ammonia NH3 (mg/l)	0.00164	0.00008	0.01910
Suspended solids @105C (mg/l)	20	2	507
Hardness (mg/l as CaCO3)	341	207	430
Alkalinity pH 4_5 (mg/l as CaCO3)	185	103	239
Chloride (mg/l)	50.2	35.5	63.2
Ortho-phosphate (mg/l)	0.0	0.0	0.2
Phosphate (mg/l)	0.1	0.0	0.4
Potassium - dissolved (mg/l)	10.5	7.9	13.4
Magnesium - dissolved (mg/l)	19.3	10.1	24.4
Magnesium - total (mg/l)	19.6	15.6	23.5
Calcium - dissolved (mg/l)	104.5	66.4	133.0
Calcium - total (mg/l)	104.4	77.9	128.0
Oil & Grease Visible? (Present = 1/Absent = 0)		0.0	1.0
Copper - dissolved (ug/l)	2.9	1.1	44.9
Zinc - total (ug/l)	16.8	3.3	198.0
Dissolved oxygen % Saturation (field reading)	102.8	80.4	142.0
Dissolved oxygen (mg/l) (field reading)	11.5	8.3	14.7

Scores Grade B for General Water Quality Assessment (GQA) Chemistry, Grade 2 for GQA Phosphate and Grade 3 for GQA Nitrate.
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Table 8b – Water Quality Summary for Sampling Point 165

Sample Point 165 (Brook Strret, Samples taken between 01/01/2000 and 28/11/2008)			
	Average	Minimum	Maximum
pH (PHUNITS)	8.11	7.36	8.76
Conductivity @ 20C (uS/cm)	647	411	765
Temp Water (CEL)	9.41	4.64	15.61
Biochemical Oxygen Demand 5 day ATU (mg/l)	1.5	0.5	5.0
Chemical Oxygen Demand as O2 (mg/l)	26	12	131
Total Ammonia (mg/l as N)	0.071	0.030	0.297
Oxidised Nitrogen (mg/l)	3.089	2.240	4.490
Nitrate (mg/l as N)	3.08	2.24	4.47
Nitrite (mg/l as N)	0.0125	0.0040	0.0240
Suspended solids @105C (mg/l)	45	3	444
Chloride (mg/l)	49.1	35.8	62.4
Ortho-phosphate (mg/l)	0.043	0.020	0.110
Dissolved oxygen (mg/l) (field reading)	10.96	8.81	12.98

Table 8c – Water Quality Summary for Sampling Point 158

Sample Point 158 (Maelor Hospital Bridge, Samples taken between 01/01/2000 and 28/11/2008)			
	Average	Minimum	Maximum
pH (PHUNITS)	8.20	7.35	9.00
Conductivity @ 20C (uS/cm)	642	391	783
Temp Water (CEL)	10.2	2.0	20.6
Conductivity @ 25C (uS/cm)	689	410	855
Dissolved oxygen % Saturation (lab analysis)	97.9	78.5	127.0
Dissolved oxygen (mg/l) (lab analysis)	11.2	9.4	14.8
Biochemical Oxygen Demand 5 day ATU (mg/l)	1.8	0.5	14.5
Chemical Oxygen Demand as O2 (mg/l)	26	12	134
Total Ammonia (mg/l as N)	0.100	0.010	1.260
Oxidised Nitrogen (mg/l)	3.229	0.200	6.441
Nitrate (mg/l as N)	3.21	6.37	0.20
Nitrite (mg/l as N)	0.0236	0.0040	0.2310
Un-ionised Ammonia NH3 (mg/l)	0.00165	0.00008	0.02080
Suspended solids @105C (mg/l)	25	2	416
Hardness (mg/l as CaCO3)	351	213	464
Alkalinity pH 4_5 (mg/l as CaCO3)	177	68	263
Chloride (mg/l)	44.6	30.8	61.4
Ortho-phosphate (mg/l)	0.039	0.002	0.280
Phosphate (mg/l)	0.071	0.012	0.329
Potassium - dissolved (mg/l)	12.44	8.44	16.00
Magnesium - dissolved (mg/l)	19.63	9.59	26.10
Magnesium - total (mg/l)	20.54	15.70	28.30
Calcium - dissolved (mg/l)	107.7	69.1	137.0
Calcium - total (mg/l)	107.4	84.9	139.0
Oil & Grease Visible? (Present = 1/Absent = 0)	0	1	36
Copper - dissolved (ug/l)	2.74	1.26	8.00
Zinc - total (ug/l)	19.06	2.32	298.00
Dissolved oxygen % Saturation (field reading)	102.4	70.6	130.0
Dissolved oxygen (mg/l) (field reading)	11.51	9.07	14.77

Scores Grade B for General Water Quality Assessment (GQA) Chemistry, Grade 2 for GQAPhosphate and Grade 3 for GQA Nitrate.

- 5.2.3 Sample points 158 (Maelor Hospital Bridge) and 167 (Willow Road) score Grade B 'good' for General Quality Assessment (GQA) Chemistry¹, Grade 2 'low' for GQA Phosphate² and Grade 3 'moderately low' for GQA Nitrate³. The EA Wales have advised that these scores are based on the assessments that use 2005 to 2007 data.
- 5.2.4 At sample point 158 the River Gwenfro has a River Quality Objective (RQO) of RE1⁴ 'water of very good quality suitable for all fish species', with water quality currently complying with this criteria. At sample point 167 the River Gwenfro has a River Quality Objective of RE2 'water of good quality suitable for all fish species', with water quality currently complying with this criteria. The EA Wales have advised that these scores are based on the RQO assessment that uses 2004 to 2006 data.

5.3 Fisheries Data

- 5.3.1 Fisheries data was provided for a single point on the River Gwenfro (SJ3496449456) for 28.08.2007; located approximately 4.8 km downstream of the proposed development site boundary. The results were as follows: Bullhead – 27, Stoneloach – 6, Salmon – 3, and Trout – 13. The River is classified as 'fair' grade D for salmon and 'fair' grade D for trout on the National Fishery Classification Scheme (NFCS) (Mainstone *et al*, 1994). NFCS describes 'fair' Grade D as '*in the bottom 40% for a fishery of this type*'.

¹ GQA Chemistry – the basic chemical grade of the GQA scheme is defined by standards for the concentrations of BOD, ammonia and dissolved oxygen. The overall grade assigned is determined by the worst of the three grades for the individual determinants.

² GQA Phosphate – total reactive phosphorus is measured and the results are recorded as measurements of orthophosphate. Concentrations that are 'high' are considered to be indicative of possible existing or future problems of eutrophication.

³ GQA Nitrate – Scoring system is from very low to very high.

⁴ The Environment Agency Wales assigns a target River Quality Objective (RQO) to each classified river stretch using the River Ecosystem Classification System. Target RQOs range from RE1 to RE5, with RE1 having the highest water quality standard.

6 BIODIVERSITY PLANS AND STRATEGIES

6.1 UK Biodiversity Action Plan

- 6.1.1 The UK Biodiversity Action Plan (UK BAP) sets out the Government's response to the Convention on Biological Diversity signed in 1992. It describes the UK's biological resources and commits to a detailed plan for the protection of these transcribed into 391 Species Action Plans (covering 475 UK BAP priority species), 45 Habitat Action Plans and 162 Local Biodiversity Action Plans with targeted actions. A further 104 UK BAP priority species were given Species Statements rather than full plans with the expectation that the conservation of some of these species would be delivered through habitat conservation measures.
- 6.1.2 The UK BAP provides a starting point for identifying regional and local biodiversity policies. In Wales, UK BAP priority species and habitats are also listed as species and habitats of principal importance for the conservation of biodiversity under *Section 42* of the *Natural Environment and Rural Communities Act 2006*. This requires local planning authorities to conserve, enhance and add to these priority habitats (and the habitats of priority species) and also that they should consider these species and habitats when determining planning applications.

6.2 The Wrexham Biodiversity Action Plan

- 6.2.1 The framework document for the Wrexham Biodiversity Action Plan (WBAP) was written in 2003 (Wrexham County Borough 2003) and is an active document⁵. The WBAP states that 17 UK Priority Habitats were selected for Wrexham County Borough as follows: upland oak woodland, wet woodland, upland mixed ash woodland, lowland wood pasture and parkland, blanket bog, lowland raised mire, ancient hedgerows, cereal field margins, upland heath, lowland heath, calcareous grassland, lowland meadows, lowland dry acid grassland, floodplain grazing marsh, fens, purple moor-grass and rush pasture and ponds. Of these it is intended that Action Plans will be prepared for each priority. Currently eight Habitat Action Plans (HAPs) are included within the WBAP: woodland (all types), veteran trees, upland moorland, rivers, streams and canals, ponds, lowland bog, gardens, and derelict and industrial land.
- 6.2.2 The WBAP also states that 22 UK Priority species were selected for Wrexham County Borough as follows
- Mammals: Water Vole, Brown Hare, European Otter, Pipistrelle Bat, Lesser Horseshoe Bat, Red Squirrel.
 - Birds: Skylark, Nightjar, Linnet, Reed Bunting, Spotted Flycatcher, Tree Sparrow, Bullfinch, Black Grouse, Song Thrush, Grey Partridge.
 - Amphibians: Great Crested Newt.

⁵ Information on latest action taken under the WBAP is provided on the Biodiversity Action Reporting System (BARS) web-site: <http://ukbars.defra.gov.uk/>

- Invertebrates: Grey Scalloped Bar Moth, Argent & Sable Moth, Lesser Silver Water Beetle.
- Plants: Slender Green Feather Moss, Prickly Sedge, Floating Water Plantain.

6.2.3 Of these it is intended that Action Plans will be prepared for each priority. Currently seven Species Action Plans (SAPs) are included within the WBAP: Badger, Otter, Lesser Horseshoe Bat, Barn Owl, Song Thrush, Great Crested Newt and Black Poplar.

6.2.4 The WBAP also includes a 'Provisional List of Locally Important/Endangered Species'.

6.3 Wrexham LANDMAP Landscape Character Area

6.3.1 Wrexham LANDMAP identifies the proposed development site as being located within Landscape Character Area 7d: West Wrexham Ridges and Valleys. This is described as '*a complex area of former mining villages, industry, farmland and woodland in a landscape of distinct ridges and valleys which are aligned towards Wrexham town.*' It further describes the ecological character as being dominated by improved grassland or arable, with Gatewen SSSI and the Gwenfro valley as providing an important wetland resource.

6.3.2 The northern boundary of the proposed development site immediately abuts Landscape Character Area 10: Wrexham Town, described as '*a thriving historic market town set on a lowland plateau*'.

7 CONCLUSIONS

- 7.1.1 The proposed development site is located in Landscape Character Area 7d: West Wrexham Ridges and Valleys. Only one statutorily protected site; Gatewen Marsh Site of Special Scientific Interest, lies within 2 km of the proposed development (approximately 650 m away at its closest point) and three Wildlife Sites within 1 km. Berse Drelincourt WS is located approximately 50 m from the proposed development site boundary (separated from the site by the A483 road).
- 7.1.2 Species (both protected and otherwise of conservation interest) and species groups previously recorded in the vicinity of the site that may be important for the assessment process include Badger, bats, Otter, West European Hedgehog, Polecat, Great Crested Newt, reptiles (Grass Snake, Slow-worm and Viviparous Lizard) and a small number of invertebrates. There are a number of species and species groups for which the desk-study to date has provided limited information (*e.g.* birds, amphibians and Water Vole). Fisheries and water quality data has also been provided for the River Gwenfro.

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9 KEY LEGISLATION AND REGULATIONS

This section provides a brief summary of key general legislation and regulations relevant to ecology and nature conservation. It should not be considered a comprehensive review and is not meant to be so. How this legislation relates to specific species is covered in *Section 4* of this report where relevant. The species-specific information provided in *Section 4* and the more general summary provided here is for information only and is not intended to replace specialised legal advice. It does not replace the text of the legislation, but summarises the salient points.

The Berne Convention on Conservation of European Wildlife and Natural Habitats, 1979.

This aims to conserve wild flora and fauna and their natural habitats, particularly endangered and vulnerable species. In the UK it has effect through the *Countryside Act, 1968* and the *Wildlife and Countryside Act, 1981*.

The Bonn Convention on Conservation of Migratory Species of Wild Animals, 1979.

This aims for management of migratory species across national or jurisdictional boundaries. This Convention is implemented in UK law by the *Environmental Protection Act, 1990*.

The EC Directive on Conservation of Wild Birds, 1979 (The 'Birds Directive').

This requires Member States to take measures for the conservation of wild birds by the designation of Special Protection Areas (SPAs). The Directive is implemented in the UK through the *Conservation (Natural Habitats, &c.) Regulations, 1994*.

The Wildlife and Countryside Act, 1981 (WCA).

This strengthened protection for Sites of Special Scientific Interest (SSSIs), provided additional safeguards for particular types of area, and restricted the killing, taking from the wild and disturbance of various species.

The Convention on Biological Diversity, 1992.

Key objectives are the conservation of biological diversity, the sustainable use of its components, and the fair and equitable sharing of the benefits of the utilisation of genetic resources. The UK's non-statutory strategy for achieving these commitments was published in 1994, Biodiversity – The UK Action Plan.

The EC Directive on Quality of Freshwaters Needing Protection or Improvement to Support Fish Life, 1978.

This intended to protect or improve the quality of freshwaters capable of supporting fish life. It has been implemented by the *Surface Waters (Fish Life) Classification Regulations, 1997* under *Section 82* of the *Water Resources Act, 1991*.

The EC Directive on Conservation of Natural Habitats and of Wild Fauna and Flora, 1992 (The 'Habitats Directive').

This contributes to the conservation of biodiversity by requiring Member States to take measures to maintain or restore natural habitats and wild species at favourable conservation status by the designation of Special Areas of Conservation (SACs). It modifies the *Birds Directive*.

The Conservation of Habitats and Species Regulations 2010 (as amended).

This gives UK implementation to the *EC Directive on Conservation of Natural Habitats and of Wild Fauna and Flora, 1992*.

The National Parks and Access to the Countryside Act, 1949.

This introduced the concept of National Nature Reserves and SSSIs and conferred powers on local authorities to create Nature Reserves. The *Countryside Act, 1968* strengthened many powers under the 1949 Act.

The Environmental Protection Act, 1990.

This established three country conservation councils (English Nature, Countryside Council for Wales and Scottish Natural Heritage) and the Joint Nature Conservation Committee to succeed the Nature Conservancy Council; and provided further protection for SSSIs.

The Ground Game Act, 1880 and the Hare Protection Act, 1911.

These Acts gave Brown Hares limited protection.

The Protection of Badgers Act, 1992.

This protects Badgers and their setts.

The Hedgerow Regulations, 1997.

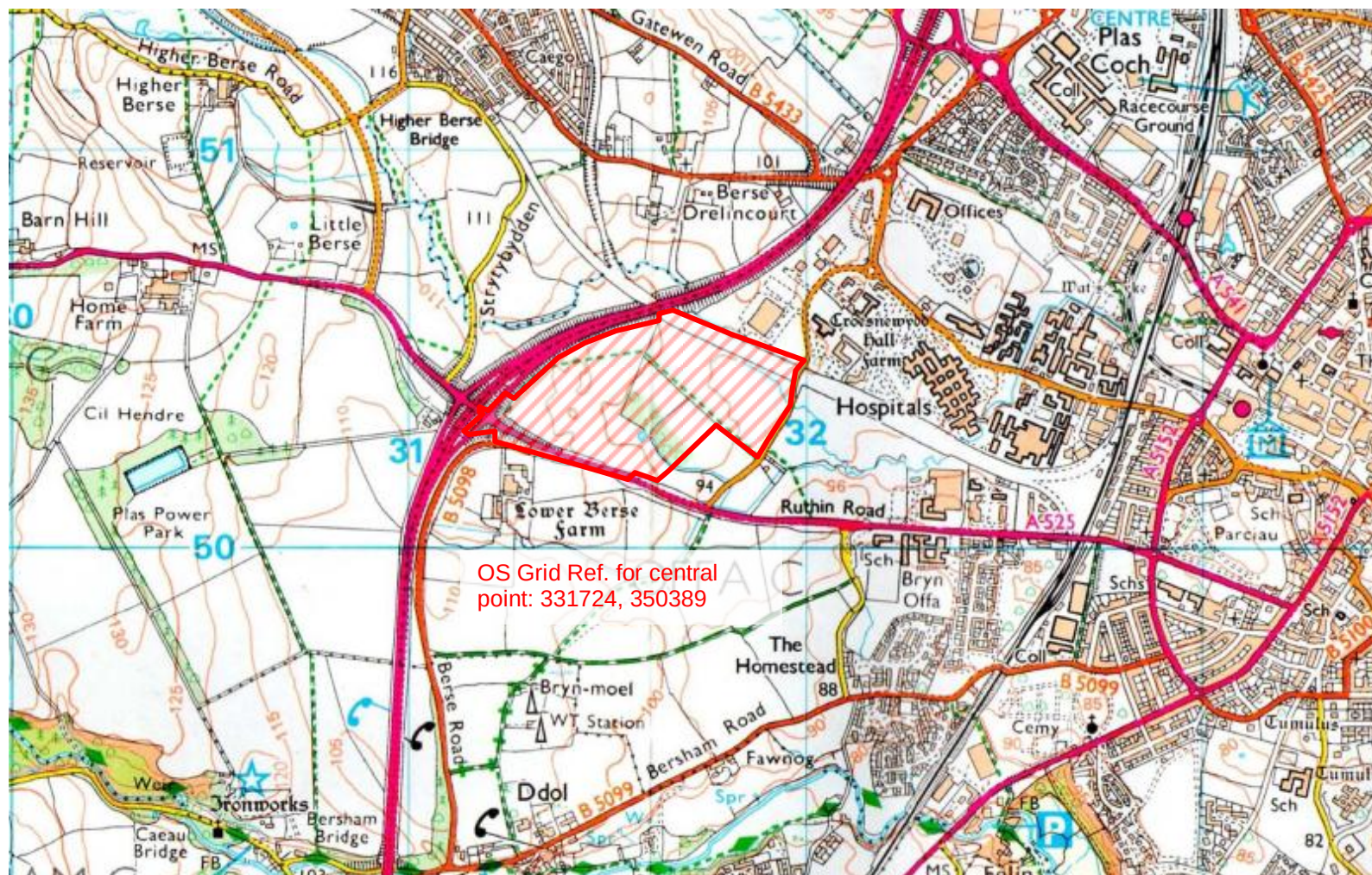
These regulations, made under *Section 97* of the *Environment Act, 1995*, require prior consent for the removal of a hedgerow.

The Countryside and Rights of Way Act, 2000 (The CROW Act).

This is the first major wildlife and countryside legislation since the Acts of 1949, 1968 and 1981. The Act covers the right of access to open land, updates to the public rights of way system, the legislation of the Biodiversity Action Plan, more stringent management, protection and consenting measures for SSSIs, greater penalties for wildlife crime, and new duties within Areas of Outstanding Natural Beauty. In addition, the Act lists species and habitats of principal importance for biodiversity (*Section 74*). It introduced a statutory duty for Government to promote steps "to further the conservation" of habitats and species listed in *Section 74*.

The Natural Environment and Rural Communities Act, 2006 (The NERC Act)

Sections 40 to 42 of the NERC Act replace *S74* of the CROW Act. *Section 40* of the NERC Act extends to all public authorities (including local planning authorities) the existing *S74* duty to have regard to biodiversity as far as is consistent with the proper exercise of their functions.



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Marches Ecology

C076 Proposed Spine Road and Development Plateaus, Western Gateway, Wrexham Technology Park, Wrexham – Ecological Impact Assessment; Ecological Background Data Search

Figure 1 – Site Location

Drawn by: ME

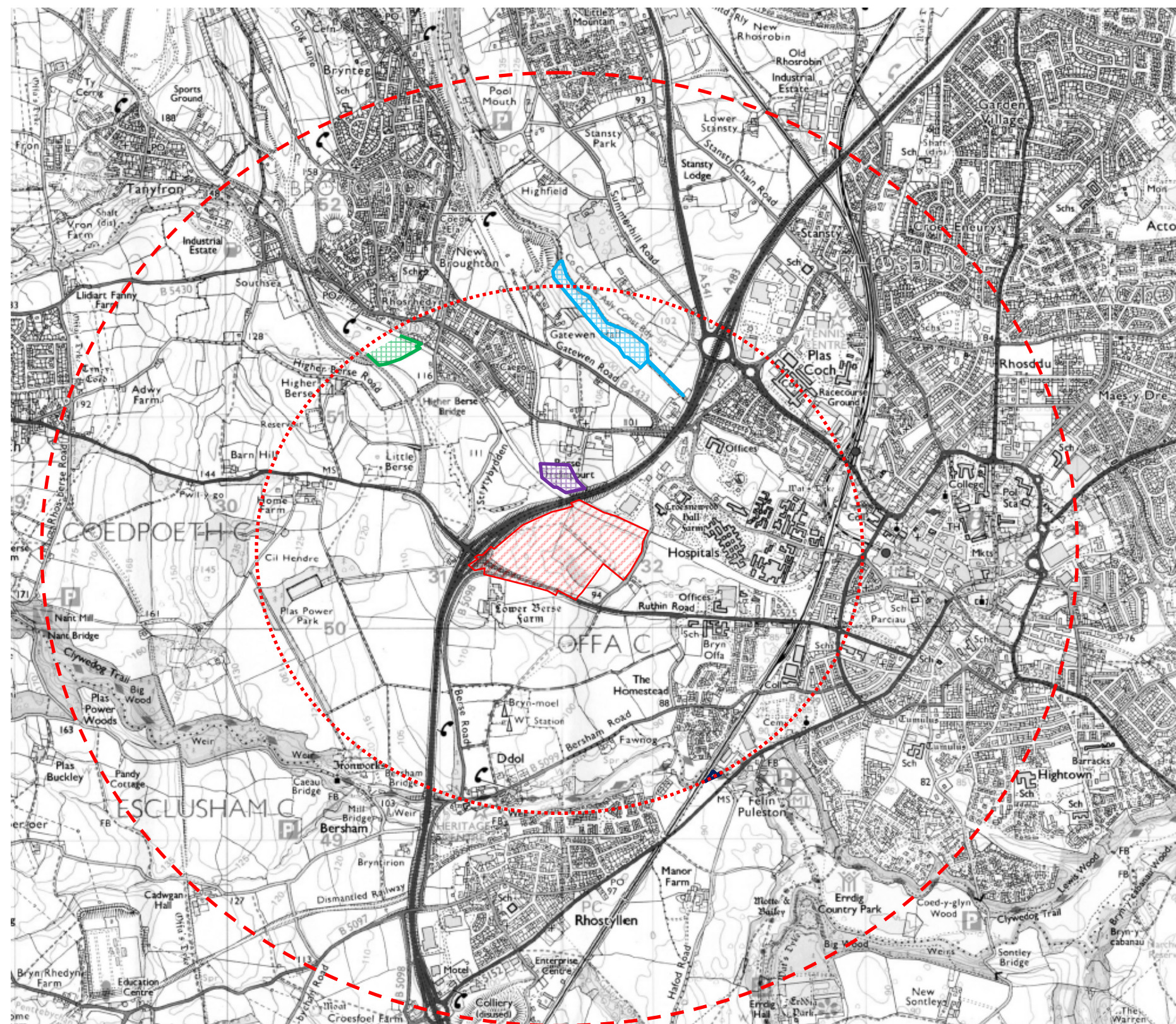
Checked by: TK

Date: 23.08.12

Key



Approximate proposed development site boundary



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C076 Proposed Spine Road and Development Plateaus, Western Gateway, Wrexham Technology Park, Wrexham – Ecological Impact Assessment; Ecological Background Data Search

Figure 2 – Statutory and Non-statutory Protected Sites

Drawn by: ME
Checked by: TK
Date: 23.08.12

Key

-  Approximate proposed development site boundary
-  Approximate 1 km boundary
-  Approximate 2 km boundary

-  Gatewen Marsh Site of Special Scientific Interest
-  Berse Dreincourt Wildlife Site (W335)
-  New Broughton Meadow Wildlife Site (W334) *
-  Erdigg Estate Wildlife Site (W317) *

NB –All boundaries are approximate only. * Only parts located within 1 km shown.

Appendix 1 – Records provided by Cofnod

Biodiversity Information Search (Species, Habitats & Sites)

PUBLIC VERSION



Please read **Important Issues** and **Notes** before interpreting the following information.

Our Ref.	Client Name	Date Run	Your Ref.
E00748	Marches Ecology	27/10/2008	C076 Western Gateway

Site Name/Reference
Wrexham Gateway

Category 1 Species (Species with International or UK Legal Protection, Section 42 [NERC] Species & UK BAP Priority Species) within 1000m buffer - 39 records

In	Grid Reference	Taxon Name	Date	Recorder(s)	Abundance	Record Type	Site Name	Comments	Dataset ID	Lists	V
S	SJ319503	Lutra lutra (<i>European Otter/Dyfrgi</i>)	Spring 2007	Zara Lomax	1		Near to Croesnewydd Bridge	1 male otter killed by dumper truck in this area, where road crosses River Gwenfro. Also an otter road kill here on a separate occasion. Both otters from River Gwenfro.	D1117/001/06 (1201324)	Bern, HDir, S42, UKBAP, WCA5	6
S	SJ312503	Meles meles (<i>Eurasian Badger/Mochyn Daeear</i>)	17/05/2004	John Gill	1		Denbighshire		D0969/001/01 (822220)	BA	6
B	SJ324501 (<i>Centroid</i>)	Allophyes oxyacanthae (<i>Green-brindled Crescent/Cilgant Brych</i>)	1982	M.Newstead	1 Adult	Attracted to a lighted window	Wrexham hospital		D0057/001/01 (553345)	S42, UKBAP	
B	SJ324496	Anguis fragilis (<i>Slow-worm/Neidr Ddefaid</i>)	2 records, both in 1990	Mark Lee; Anon			Railway track, Wrexham		D0035/001/02, D1076/001/01	S42, UKBAP, WCA5	
B	SJ3250 (<i>Estimated from Map</i>)	Chiroptera (<i>Chiroptera</i>)	05/09/2002	Anon	1		Site Name Withheld	Comments Withheld	D1049/001/02 (683069)	Bonn, WCA5	
B	SJ325500	Erinaceus europaeus (<i>West European Hedgehog/Draenog</i>)	2003	Anon	1		Pwll Bwlch Gwyn, Brymbo Road, Wrexham	Alive	D0971/001/01 (825983)	S42, UKBAP	4
B	SJ3105751297	Erinaceus europaeus (<i>West European Hedgehog/Draenog</i>)	01/09/2002	Anon	1		Weston Road, New Broughton Wrexham	Alive	D0971/001/01 (825925)	S42, UKBAP	4
B	SJ306507	Mustela putorius (<i>Polecat/Ffwlbart</i>)	09/10/2005	Brian Burnett			B5430, half mile E of Coedpoeth.	Dead on road, markings clearly polecat.	D0112/001/01 (757675)	HDir, S42, UKBAP	5
B	SJ324496	Natrix natrix (<i>Grass Snake/Neidr y Gwair</i>)	2 records, both in 1990	Anon; Mark Lee			Railway track, Wrexham		D1076/001/01, D0035/001/02	S42, UKBAP	
B	SJ3249 (<i>Estimated from Map</i>)	Pipistrellus (<i>Pipistrellus</i>)	26/06/2003	Anon	0		Site Name Withheld	Comments Withheld	D1049/001/02 (683511)	Bonn, WCA5	
B	SJ3249 (<i>Estimated from Map</i>)	Pipistrellus pipistrellus (<i>Common Pipistrelle/Ystum Lleiaf</i>)	16/07/1997	Anon			Site Name Withheld	Comments Withheld	D1049/001/02 (683867)	Bonn, Bern, HDir, S42, WCA5	
B	SJ3151 (<i>Estimated from Map</i>)	Pipistrellus pipistrellus (<i>Common Pipistrelle/Ystum Lleiaf</i>)	2 records, in 1988 and 24/05/1989	Anon			Site Name Withheld	Comments Withheld	D1049/001/02	Bonn, Bern, HDir, S42, WCA5	
B	SJ3251 (<i>Estimated from Map</i>)	Pipistrellus pipistrellus (<i>Common Pipistrelle/Ystum Lleiaf</i>)	14/10/1999	Anon	1		Site Name Withheld	Comments Withheld	D1049/001/02 (683628)	Bonn, Bern, HDir, S42, WCA5	
B	SJ313493	Plecotus (<i>Plecotus</i>)	1987	Pulford, E.A.			Wrexham,Bersham		D1072/001/01 (409887)	Bonn, WCA5	
B	SJ3150 (<i>Estimated from Map</i>)	Plecotus auritus (<i>Brown Long-eared Bat/Ystum Hirglust</i>)	13/09/1999	Anon	1		Site Name Withheld	Comments Withheld	D1049/001/02 (683989)	Bonn, Bern, HDir, S42, UKBAP, WCA5	
B	SJ3149 (<i>Estimated from Map</i>)	Plecotus auritus (<i>Brown Long-eared Bat/Ystum Hirglust</i>)	21/08/1987	Anon			Site Name Withheld	Comments Withheld	D1049/001/02 (684115)	Bonn, Bern, HDir, S42, UKBAP, WCA5	
B	SJ3037050200	Triturus cristatus (<i>Great Crested Newt/Madfall Ddwr Gribog</i>)	1996	I.S.			Plas Power Park		D1125/001/01 (756271)	Bern, Global, HDir, S42, UKBAP, WCA5	
B	SJ324501 (<i>Centroid</i>)	Tyria jacobaeae (<i>Cinnabar/Teigr y Benfelen</i>)	2 records, on 17/05/1978 and 11/05/1982	M.Newstead	1 Adult, 1 Adult	MV Light; Daytime observation	Wrexham hospital		D0057/001/01	S42, UKBAP	
B	SJ327502	Zootoca vivipara (<i>Common Lizard</i>)	2004	Pete Lancashire			Wrexham	100+ on railway triangle site	D0035/001/02 (297431)	S42, UKBAP, WCA5	
S	SJ3150#	Meles meles (<i>Eurasian Badger/Mochyn Daeear</i>)	7 records, all on 29/03/2002	Clwyd Badger Group (CBG)		Badger Sett		CBG Ref: A50.5. Please contact CBG for more details.; CBG Ref: A50.6; CBG Ref: A50.0; CBG Ref: A50.4; CBG Ref: A50.1; CBG Ref: A50.2; CBG Ref: A50.3	D0059/001/01	BA	
SB	SJ3250#	Meles meles (<i>Eurasian Badger/Mochyn Daeear</i>)	30/04/2002	Clwyd Badger Group (CBG)		Badger Sett		CBG Ref: A76.0. Please contact CBG for more details.	D0059/001/01 (802951)	BA	
B	SJ3249#	Meles meles (<i>Eurasian Badger/Mochyn Daeear</i>)	2 records, on 01/01/2003 and 19/04/2007	Clwyd Badger Group (CBG)		Badger Sett		CBG Ref: B40.0. Please contact CBG for more details.; CBG Ref: B1.0	D0059/001/01	BA	
B	SJ3049#	Meles meles (<i>Eurasian Badger/Mochyn Daeear</i>)	25/02/2003	Clwyd Badger Group (CBG)		Badger Sett		CBG Ref: B26.0. Please contact CBG for more details.	D0059/001/01 (804413)	BA	
B	SJ3151#	Meles meles (<i>Eurasian Badger/Mochyn Daeear</i>)	01/04/2002	Clwyd Badger Group (CBG)		Badger Sett		CBG Ref: A69.0. Please contact CBG for more details.	D0059/001/01 (802944)	BA	
B	SJ3050#	Meles meles (<i>Eurasian Badger/Mochyn Daeear</i>)	2 records, both on 25/02/2003	Clwyd Badger Group (CBG)		Badger Sett		CBG Ref: A40.0. Please contact CBG for more details.; CBG Ref: A40.1	D0059/001/01	BA	
B	SJ3051#	Pipistrellus pipistrellus (<i>Common Pipistrelle/Ystum Lleiaf</i>)	1985	Anon					D1072/001/01 (408442)	Bonn, Bern, HDir, S42, WCA5	
B	SJ3149#	Plecotus (<i>Plecotus</i>)	1987	Anon			Bersham		D1072/001/01 (409843)	Bonn, WCA5	

Category 2 Species (Global Red List, British Red Data Book, Rare & Scarce, and Welsh Red and Amber Birds, where these are not identified in Category 1) within 1000m buffer - 6 records											
In	Grid Reference	Taxon Name	Date	Recorder(s)	Abundance	Record Type	Site Name	Comments	Dataset ID	Lists	V
B	SJ318514	Campsicnemus pusillus (<i>Campsicnemus pusillus</i>)	03/08/1988	Welsh Peatland Invert. Survey	1 present	Pitfall Trap	WPIS Sample 1, Gatewen Marsh (WPIS)		D1226/001/01 (<i>1146636</i>)	RS	
B	SJ318514	Phaonia atriceps (<i>Phaonia atriceps</i>)	2 records, on 03/08/1988 and 12/10/1988	Welsh Peatland Invert. Survey	2 present, 37 present	Water Trap	WPIS Sample 1, Gatewen Marsh (WPIS)		D1226/001/01	RS	
B	SJ318514	Pilaria scutellata (<i>Pilaria scutellata</i>)	3 records, between 05/07/1988 and 03/08/1988	Welsh Peatland Invert. Survey	1 present, 1 present, 2 present	Pitfall Trap; Water Trap	WPIS Sample 1, Gatewen Marsh (WPIS)		D1226/001/01	RS	

Category 3 Species (LBAP Species not identified under Categories 1 & 2) within 1000m buffer - 2 records											
In	Grid Reference	Taxon Name	Date	Recorder(s)	Abundance	Record Type	Site Name	Comments	Dataset ID	LBAPs	V
B	SJ315506	Aeshna mixta (<i>Migrant Hawker</i>)	27/08/2004	Bryan Formstone	1 Adult		Gatewen old railway, west of Wrexham		D0067/001/01 (<i>638362</i>)	GWY,SNO	
B	SJ317512	Mustela erminea (<i>Stoat/Carlwm</i>)	20/06/2006	Brian Burnett			Caego, wrexham side of garden centre	Ran across road, c.midday.	D0112/001/01 (<i>757679</i>)	ANG,FLI	5

Bats within 5000m buffer - 104 records												
In	Grid Reference	Taxon Name	Date	Recorder(s)	Abundance	Record Type	Site Name	Comments	Dataset ID	Lists	V	
B	SJ3547 (<i>Estimated from Map</i>)	Chiroptera (<i>Chiroptera</i>)	26/07/1987	Anon			Site Name Withheld	Comments Withheld	D1049/001/02 (683325)	Bonn, WCA5		
B	SJ3248 (<i>Estimated from Map</i>)	Chiroptera (<i>Chiroptera</i>)	2 records, on 31/05/1996 and 28/07/1999	Anon			Site Name Withheld	Comments Withheld	D1049/001/02	Bonn, WCA5		
B	SJ3452 (<i>Estimated from Map</i>)	Chiroptera (<i>Chiroptera</i>)	1994	Anon			Site Name Withheld	Comments Withheld	D1049/001/02 (683262)	Bonn, WCA5		
B	SJ3551 (<i>Estimated from Map</i>)	Chiroptera (<i>Chiroptera</i>)	2 records, both on 24/06/1982	Anon			Site Name Withheld	Comments Withheld	D1049/001/02	Bonn, WCA5		
B	SJ2954 (<i>Estimated from Map</i>)	Chiroptera (<i>Chiroptera</i>)	15/07/1996	Anon			Site Name Withheld	Comments Withheld	D1049/001/02 (683233)	Bonn, WCA5		
B	SJ3155 (<i>Estimated from Map</i>)	Chiroptera (<i>Chiroptera</i>)	1987	Anon			Site Name Withheld	Comments Withheld	D1049/001/02 (683252)	Bonn, WCA5		
B	SJ3152 (<i>Estimated from Map</i>)	Chiroptera (<i>Chiroptera</i>)	1994	Anon			Site Name Withheld	Comments Withheld	D1049/001/02 (683261)	Bonn, WCA5		
B	SJ3349 (<i>Estimated from Map</i>)	Chiroptera (<i>Chiroptera</i>)	12/07/1982	Anon			Site Name Withheld	Comments Withheld	D1049/001/02 (683217)	Bonn, WCA5		
B	SJ3347 (<i>Estimated from Map</i>)	Chiroptera (<i>Chiroptera</i>)	12/10/1989	Anon			Site Name Withheld	Comments Withheld	D1049/001/02 (683218)	Bonn, WCA5		
B	SJ3449 (<i>Estimated from Map</i>)	Chiroptera (<i>Chiroptera</i>)	14/08/1986	Anon			Site Name Withheld	Comments Withheld	D1049/001/02 (683228)	Bonn, WCA5		
B	SJ3449 (<i>Estimated from Map</i>)	Chiroptera (<i>Chiroptera</i>)	04/07/1988	Anon			Site Name Withheld	Comments Withheld	D1049/001/02 (683156)	Bonn, WCA5		
B	SJ3547 (<i>Estimated from Map</i>)	Chiroptera (<i>Chiroptera</i>)	05/07/1999	Anon			Site Name Withheld	Comments Withheld	D1049/001/02 (683159)	Bonn, WCA5		
B	SJ3449 (<i>Estimated from Map</i>)	Chiroptera (<i>Chiroptera</i>)	09/08/1988	Anon			Site Name Withheld	Comments Withheld	D1049/001/02 (683201)	Bonn, WCA5		
B	SJ3148 (<i>Estimated from Map</i>)	Chiroptera (<i>Chiroptera</i>)	08/07/1983	Anon	5-8		Site Name Withheld	Comments Withheld	D1049/001/02 (683145)	Bonn, WCA5		
B	SJ3148 (<i>Estimated from Map</i>)	Chiroptera (<i>Chiroptera</i>)	03/07/1986	Anon			Site Name Withheld	Comments Withheld	D1049/001/02 (683150)	Bonn, WCA5		
B	SJ3350 (<i>Estimated from Map</i>)	Chiroptera (<i>Chiroptera</i>)	03/10/1990	Anon			Site Name Withheld	Comments Withheld	D1049/001/02 (683154)	Bonn, WCA5		
B	SJ3354 (<i>Estimated from Map</i>)	Chiroptera (<i>Chiroptera</i>)	24/06/1983	Anon	32		Site Name Withheld	Comments Withheld	D1049/001/02 (683119)	Bonn, WCA5		
B	SJ2952 (<i>Estimated from Map</i>)	Chiroptera (<i>Chiroptera</i>)	01/07/1987	Anon	34		Site Name Withheld	Comments Withheld	D1049/001/02 (683120)	Bonn, WCA5		
B	SJ2955 (<i>Estimated from Map</i>)	Chiroptera (<i>Chiroptera</i>)	31/07/1997	Anon	139		Site Name Withheld	Comments Withheld	D1049/001/02 (683136)	Bonn, WCA5		
B	SJ3051 (<i>Estimated from Map</i>)	Chiroptera (<i>Chiroptera</i>)	29/06/2000	Anon			Site Name Withheld	Comments Withheld	D1049/001/02 (683414)	Bonn, WCA5		
B	SJ3355 (<i>Estimated from Map</i>)	Chiroptera (<i>Chiroptera</i>)	05/07/2001	Anon			Site Name Withheld	Comments Withheld	D1049/001/02 (683430)	Bonn, WCA5		
B	SJ3449 (<i>Estimated from Map</i>)	Chiroptera (<i>Chiroptera</i>)	30/12/1999	Anon			Site Name Withheld	Comments Withheld	D1049/001/02 (683441)	Bonn, WCA5		
B	SJ3551 (<i>Estimated from Map</i>)	Chiroptera (<i>Chiroptera</i>)	17/05/2004	Anon			Site Name Withheld	Comments Withheld	D1049/001/02 (683379)	Bonn, WCA5		
B	SJ3551 (<i>Estimated from Map</i>)	Chiroptera (<i>Chiroptera</i>)	15/06/1996	Anon			Site Name Withheld	Comments Withheld	D1049/001/02 (683395)	Bonn, WCA5		
B	SJ3247 (<i>Estimated from Map</i>)	Chiroptera (<i>Chiroptera</i>)	30/12/1999	Anon			Site Name Withheld	Comments Withheld	D1049/001/02 (683408)	Bonn, WCA5		
B	SJ2752 (<i>Estimated from Map</i>)	Chiroptera (<i>Chiroptera</i>)	2 records, both on 31/08/1999	Anon			Site Name Withheld	Comments Withheld	D1049/001/02	Bonn, WCA5		
B	SJ3053 (<i>Estimated from Map</i>)	Chiroptera (<i>Chiroptera</i>)	02/09/1993	Anon			Site Name Withheld	Comments Withheld	D1049/001/02 (683373)	Bonn, WCA5		
B	SJ2850 (<i>Estimated from Map</i>)	Chiroptera (<i>Chiroptera</i>)	13/08/1985	Anon	10		Site Name Withheld	Comments Withheld	D1049/001/02 (683106)	Bonn, WCA5		
B	SJ2847 (<i>Estimated from Map</i>)	Chiroptera (<i>Chiroptera</i>)	14/10/1997	Anon	15		Site Name Withheld	Comments Withheld	D1049/001/02 (683111)	Bonn, WCA5		
B	SJ3348 (<i>Estimated from Map</i>)	Chiroptera (<i>Chiroptera</i>)	14/01/2002	Anon	1		Site Name Withheld	Comments Withheld	D1049/001/02 (683078)	Bonn, WCA5		

In	Grid Reference	Taxon Name	Date	Recorder(s)	Abundance	Record Type	Site Name	Comments	Dataset ID	Lists	V
B	SJ3350 <i>(Estimated from Map)</i>	Chiroptera <i>(Chiroptera)</i>	01/10/1998	Anon	1		Site Name Withheld	Comments Withheld	D1049/001/02 (683097)	Bonn, WCA5	
B	SJ3249 <i>(Estimated from Map)</i>	Chiroptera <i>(Chiroptera)</i>	12/07/1994	Anon	2		Site Name Withheld	Comments Withheld	D1049/001/02 (683099)	Bonn, WCA5	
B	SJ3547 <i>(Estimated from Map)</i>	Chiroptera <i>(Chiroptera)</i>	31/03/2003	Anon	0		Site Name Withheld	Comments Withheld	D1049/001/02 (683067)	Bonn, WCA5	
B	SJ3250 <i>(Estimated from Map)</i>	Chiroptera <i>(Chiroptera)</i>	05/09/2002	Anon	1		Site Name Withheld	Comments Withheld	D1049/001/02 (683069)	Bonn, WCA5	
B	SJ3350 <i>(Estimated from Map)</i>	Chiroptera <i>(Chiroptera)</i>	12/07/1999	Anon	1		Site Name Withheld	Comments Withheld	D1049/001/02 (683077)	Bonn, WCA5	
B	SJ3348 <i>(Estimated from Map)</i>	Myotis <i>(Myotis Species)</i>	31/05/1996	Anon	3		Site Name Withheld	Comments Withheld	D1049/001/02 (683444)	Bonn, WCA5	
B	SJ3247 <i>(Estimated from Map)</i>	Myotis <i>(Myotis Species)</i>	30/06/1999	Anon			Site Name Withheld	Comments Withheld	D1049/001/02 (683448)	Bonn, WCA5	
B	SJ2847 <i>(Estimated from Map)</i>	Myotis mystacinus <i>(Whiskered Bat/Ystlum Barfog)</i>	25/08/2000	Anon	1		Site Name Withheld	Comments Withheld	D1049/001/02 (683470)	Bonn, Bern, HDir, WCA5	
B	SJ2749 <i>(Estimated from Map)</i>	Pipistrellus <i>(Pipistrellus)</i>	19/07/2002	Anon	1		Site Name Withheld	Comments Withheld	D1049/001/02 (683522)	Bonn, WCA5	
B	SJ3253 <i>(Estimated from Map)</i>	Pipistrellus <i>(Pipistrellus)</i>	19/08/2003	Anon	1		Site Name Withheld	Comments Withheld	D1049/001/02 (683523)	Bonn, WCA5	
B	SJ3045 <i>(Estimated from Map)</i>	Pipistrellus <i>(Pipistrellus)</i>	05/06/2000	Anon			Site Name Withheld	Comments Withheld	D1049/001/02 (683551)	Bonn, WCA5	
B	SJ3249 <i>(Estimated from Map)</i>	Pipistrellus <i>(Pipistrellus)</i>	26/06/2003	Anon	0		Site Name Withheld	Comments Withheld	D1049/001/02 (683511)	Bonn, WCA5	
B	SJ3447 <i>(Estimated from Map)</i>	Pipistrellus <i>(Pipistrellus)</i>	25/06/2002	Anon	0		Site Name Withheld	Comments Withheld	D1049/001/02 (683514)	Bonn, WCA5	
B	SJ3253 <i>(Estimated from Map)</i>	Pipistrellus <i>(Pipistrellus)</i>	16/07/2003	Anon	1		Site Name Withheld	Comments Withheld	D1049/001/02 (683520)	Bonn, WCA5	
B	SJ3551 <i>(Estimated from Map)</i>	Pipistrellus pipistrellus <i>(Common Pipistrelle/Ystlum Lleiaf)</i>	27/07/1992	Anon			Site Name Withheld	Comments Withheld	D1049/001/02 (683786)	Bonn, Bern, HDir, S42, WCA5	
B	SJ3155 <i>(Estimated from Map)</i>	Pipistrellus pipistrellus <i>(Common Pipistrelle/Ystlum Lleiaf)</i>	03/09/1999	Anon			Site Name Withheld	Comments Withheld	D1049/001/02 (683792)	Bonn, Bern, HDir, S42, WCA5	
B	SJ3355 <i>(Estimated from Map)</i>	Pipistrellus pipistrellus <i>(Common Pipistrelle/Ystlum Lleiaf)</i>	04/07/1995	Anon			Site Name Withheld	Comments Withheld	D1049/001/02 (683795)	Bonn, Bern, HDir, S42, WCA5	
B	SJ3151 <i>(Estimated from Map)</i>	Pipistrellus pipistrellus <i>(Common Pipistrelle/Ystlum Lleiaf)</i>	2 records, in 1988 and 24/05/1989	Anon			Site Name Withheld	Comments Withheld	D1049/001/02	Bonn, Bern, HDir, S42, WCA5	
B	SJ3249 <i>(Estimated from Map)</i>	Pipistrellus pipistrellus <i>(Common Pipistrelle/Ystlum Lleiaf)</i>	16/07/1997	Anon			Site Name Withheld	Comments Withheld	D1049/001/02 (683867)	Bonn, Bern, HDir, S42, WCA5	
B	SJ3647 <i>(Estimated from Map)</i>	Pipistrellus pipistrellus <i>(Common Pipistrelle/Ystlum Lleiaf)</i>	06/07/1993	Anon			Site Name Withheld	Comments Withheld	D1049/001/02 (683803)	Bonn, Bern, HDir, S42, WCA5	
B	SJ3046 <i>(Estimated from Map)</i>	Pipistrellus pipistrellus <i>(Common Pipistrelle/Ystlum Lleiaf)</i>	10/05/1995	Anon			Site Name Withheld	Comments Withheld	D1049/001/02 (683817)	Bonn, Bern, HDir, S42, WCA5	
B	SJ3152 <i>(Estimated from Map)</i>	Pipistrellus pipistrellus <i>(Common Pipistrelle/Ystlum Lleiaf)</i>	24/07/1992	Anon			Site Name Withheld	Comments Withheld	D1049/001/02 (683773)	Bonn, Bern, HDir, S42, WCA5	
B	SJ3051 <i>(Estimated from Map)</i>	Pipistrellus pipistrellus <i>(Common Pipistrelle/Ystlum Lleiaf)</i>	23/07/1985	Anon			Site Name Withheld	Comments Withheld	D1049/001/02 (683778)	Bonn, Bern, HDir, S42, WCA5	
B	SJ2651 <i>(Estimated from Map)</i>	Pipistrellus pipistrellus <i>(Common Pipistrelle/Ystlum Lleiaf)</i>	06/06/1993	Anon	23		Site Name Withheld	Comments Withheld	D1049/001/02 (683678)	Bonn, Bern, HDir, S42, WCA5	
B	SJ3248 <i>(Estimated from Map)</i>	Pipistrellus pipistrellus <i>(Common Pipistrelle/Ystlum Lleiaf)</i>	03/06/1993	Anon	27		Site Name Withheld	Comments Withheld	D1049/001/02 (683683)	Bonn, Bern, HDir, S42, WCA5	
B	SJ3452 <i>(Estimated from Map)</i>	Pipistrellus pipistrellus <i>(Common Pipistrelle/Ystlum Lleiaf)</i>	21/07/1998	Anon			Site Name Withheld	Comments Withheld	D1049/001/02 (683770)	Bonn, Bern, HDir, S42, WCA5	
B	SJ3551 <i>(Estimated from Map)</i>	Pipistrellus pipistrellus <i>(Common Pipistrelle/Ystlum Lleiaf)</i>	2 records, on 16/07/1987 and 23/07/1987	Anon	15, 18		Site Name Withheld	Comments Withheld	D1049/001/02	Bonn, Bern, HDir, S42, WCA5	
B	SJ2947 <i>(Estimated from Map)</i>	Pipistrellus pipistrellus <i>(Common Pipistrelle/Ystlum Lleiaf)</i>	12/07/1982	Anon	21		Site Name Withheld	Comments Withheld	D1049/001/02 (683676)	Bonn, Bern, HDir, S42, WCA5	
B	SJ3245 <i>(Estimated from Map)</i>	Pipistrellus pipistrellus <i>(Common Pipistrelle/Ystlum Lleiaf)</i>	28/07/1997	Anon	2		Site Name Withheld	Comments Withheld	D1049/001/02 (683647)	Bonn, Bern, HDir, S42, WCA5	
B	SJ3453 <i>(Estimated from Map)</i>	Pipistrellus pipistrellus <i>(Common Pipistrelle/Ystlum Lleiaf)</i>	28/07/1997	Anon	4		Site Name Withheld	Comments Withheld	D1049/001/02 (683656)	Bonn, Bern, HDir, S42, WCA5	
B	SJ3551 <i>(Estimated from Map)</i>	Pipistrellus pipistrellus <i>(Common Pipistrelle/Ystlum Lleiaf)</i>	05/07/1994	Anon	6		Site Name Withheld	Comments Withheld	D1049/001/02 (683659)	Bonn, Bern, HDir, S42, WCA5	
B	SJ3251 <i>(Estimated from Map)</i>	Pipistrellus pipistrellus <i>(Common Pipistrelle/Ystlum Lleiaf)</i>	14/10/1999	Anon	1		Site Name Withheld	Comments Withheld	D1049/001/02 (683628)	Bonn, Bern, HDir, S42, WCA5	
B	SJ3454 <i>(Estimated from Map)</i>	Pipistrellus pipistrellus <i>(Common Pipistrelle/Ystlum Lleiaf)</i>	2 records, on 11/06/1998 and 30/06/1999	Anon	1, 1		Site Name Withheld	Comments Withheld	D1049/001/02	Bonn, Bern, HDir, S42, WCA5	
B	SJ3449 <i>(Estimated from Map)</i>	Pipistrellus pipistrellus <i>(Common Pipistrelle/Ystlum Lleiaf)</i>	12/07/1999	Anon	1		Site Name Withheld	Comments Withheld	D1049/001/02 (683634)	Bonn, Bern, HDir, S42, WCA5	
B	SJ3249 <i>(Estimated from Map)</i>	Pipistrellus pipistrellus <i>(Common Pipistrelle/Ystlum Lleiaf)</i>	25/08/1999	Anon	1		Site Name Withheld	Comments Withheld	D1049/001/02 (683610)	Bonn, Bern, HDir, S42, WCA5	
B	SJ2851 <i>(Estimated from Map)</i>	Pipistrellus pipistrellus <i>(Common Pipistrelle/Ystlum Lleiaf)</i>	06/06/2003	Anon	1		Site Name Withheld	Comments Withheld	D1049/001/02 (683614)	Bonn, Bern, HDir, S42, WCA5	
B	SJ3153 <i>(Estimated from Map)</i>	Pipistrellus pipistrellus <i>(Common Pipistrelle/Ystlum Lleiaf)</i>	30/07/1982	Anon			Site Name Withheld	Comments Withheld	D1049/001/02 (683966)	Bonn, Bern, HDir, S42, WCA5	

In	Grid Reference	Taxon Name	Date	Recorder(s)	Abundance	Record Type	Site Name	Comments	Dataset ID	Lists	V
B	SJ3349 <i>(Estimated from Map)</i>	Pipistrellus pipistrellus <i>(Common Pipistrelle/Ystlum Lleiaf)</i>	31/08/1999	Anon	1		Site Name Withheld	Comments Withheld	D1049/001/02 (683587)	Bonn, Bern, HDir, S42, WCA5	
B	SJ3452 <i>(Estimated from Map)</i>	Pipistrellus pipistrellus <i>(Common Pipistrelle/Ystlum Lleiaf)</i>	25/06/1993	Anon			Site Name Withheld	Comments Withheld	D1049/001/02 (683951)	Bonn, Bern, HDir, S42, WCA5	
B	SJ3148 <i>(Estimated from Map)</i>	Pipistrellus pipistrellus <i>(Common Pipistrelle/Ystlum Lleiaf)</i>	26/06/1989	Anon			Site Name Withheld	Comments Withheld	D1049/001/02 (683952)	Bonn, Bern, HDir, S42, WCA5	
B	SJ3148 <i>(Estimated from Map)</i>	Pipistrellus pipistrellus <i>(Common Pipistrelle/Ystlum Lleiaf)</i>	20/07/1988	Anon			Site Name Withheld	Comments Withheld	D1049/001/02 (683958)	Bonn, Bern, HDir, S42, WCA5	
B	SJ2945 <i>(Estimated from Map)</i>	Pipistrellus pipistrellus <i>(Common Pipistrelle/Ystlum Lleiaf)</i>	07/08/1992	Anon			Site Name Withheld	Comments Withheld	D1049/001/02 (683930)	Bonn, Bern, HDir, S42, WCA5	
B	SJ2851 <i>(Estimated from Map)</i>	Pipistrellus pipistrellus <i>(Common Pipistrelle/Ystlum Lleiaf)</i>	16/07/1990	Anon			Site Name Withheld	Comments Withheld	D1049/001/02 (683932)	Bonn, Bern, HDir, S42, WCA5	
B	SJ3547 <i>(Estimated from Map)</i>	Pipistrellus pipistrellus <i>(Common Pipistrelle/Ystlum Lleiaf)</i>	31/07/1985	Anon			Site Name Withheld	Comments Withheld	D1049/001/02 (683937)	Bonn, Bern, HDir, S42, WCA5	
B	SJ3346 <i>(Estimated from Map)</i>	Pipistrellus pipistrellus <i>(Common Pipistrelle/Ystlum Lleiaf)</i>	28/07/1989	Anon			Site Name Withheld	Comments Withheld	D1049/001/02 (683890)	Bonn, Bern, HDir, S42, WCA5	
B	SJ2946 <i>(Estimated from Map)</i>	Pipistrellus pipistrellus <i>(Common Pipistrelle/Ystlum Lleiaf)</i>	05/09/1996	Anon			Site Name Withheld	Comments Withheld	D1049/001/02 (683894)	Bonn, Bern, HDir, S42, WCA5	
B	SJ3248 <i>(Estimated from Map)</i>	Pipistrellus pipistrellus <i>(Common Pipistrelle/Ystlum Lleiaf)</i>	02/09/1987	Anon			Site Name Withheld	Comments Withheld	D1049/001/02 (683913)	Bonn, Bern, HDir, S42, WCA5	
B	SJ313493	Plecotus <i>(Plecotus)</i>	1987	Pulford, E.A.			Wrexham,Bersham		D1072/001/01 (409887)	Bonn, WCA5	
B	SJ3248 <i>(Estimated from Map)</i>	Plecotus auritus <i>(Brown Long-eared Bat/Ystlum Hirglust)</i>	30/12/1999	Anon			Site Name Withheld	Comments Withheld	D1049/001/02 (684081)	Bonn, Bern, HDir, S42, UKBAP, WCA5	
B	SJ3149 <i>(Estimated from Map)</i>	Plecotus auritus <i>(Brown Long-eared Bat/Ystlum Hirglust)</i>	21/08/1987	Anon			Site Name Withheld	Comments Withheld	D1049/001/02 (684115)	Bonn, Bern, HDir, S42, UKBAP, WCA5	
B	SJ3147 <i>(Estimated from Map)</i>	Plecotus auritus <i>(Brown Long-eared Bat/Ystlum Hirglust)</i>	01/08/1989	Anon	1		Site Name Withheld	Comments Withheld	D1049/001/02 (683999)	Bonn, Bern, HDir, S42, UKBAP, WCA5	
B	SJ3049 <i>(Estimated from Map)</i>	Plecotus auritus <i>(Brown Long-eared Bat/Ystlum Hirglust)</i>	13/07/1988	Anon			Site Name Withheld	Comments Withheld	D1049/001/02 (684052)	Bonn, Bern, HDir, S42, UKBAP, WCA5	
B	SJ3549 <i>(Estimated from Map)</i>	Plecotus auritus <i>(Brown Long-eared Bat/Ystlum Hirglust)</i>	11/11/1991	Anon			Site Name Withheld	Comments Withheld	D1049/001/02 (684053)	Bonn, Bern, HDir, S42, UKBAP, WCA5	
B	SJ3150 <i>(Estimated from Map)</i>	Plecotus auritus <i>(Brown Long-eared Bat/Ystlum Hirglust)</i>	13/09/1999	Anon	1		Site Name Withheld	Comments Withheld	D1049/001/02 (683989)	Bonn, Bern, HDir, S42, UKBAP, WCA5	
B	SJ3450 <i>(Estimated from Map)</i>	Plecotus auritus <i>(Brown Long-eared Bat/Ystlum Hirglust)</i>	09/09/1999	Anon	1		Site Name Withheld	Comments Withheld	D1049/001/02 (683992)	Bonn, Bern, HDir, S42, UKBAP, WCA5	
B	SJ3451 <i>(Estimated from Map)</i>	Plecotus auritus <i>(Brown Long-eared Bat/Ystlum Hirglust)</i>	1996	Anon	1		Site Name Withheld	Comments Withheld	D1049/001/02 (683997)	Bonn, Bern, HDir, S42, UKBAP, WCA5	
B	SJ2850 <i>(Estimated from Map)</i>	Rhinolophus hipposideros <i>(Lesser Horseshoe Bat/Ystlum Pedol Lleiaf)</i>	3 records, between 10/06/1999 and 21/01/2000	Anon	5, 5, 32		Site Name Withheld	Comments Withheld	D1049/001/02	Bonn, Bern, Global, HDir, S42, UKBAP, WCA5	
B	SJ3455#	Myotis daubentonii <i>(Daubenton's Bat/Ystlum y Dwr)</i>	2 records, on 02/08/1998 and 23/08/1998	Anon			Site Name Withheld	Comments Withheld	D1111/001/01	Bonn, Bern, HDir, WCA5	
B	SJ3051#	Pipistrellus pipistrellus <i>(Common Pipistrelle/Ystlum Lleiaf)</i>	1985	Anon					D1072/001/01 (408442)	Bonn, Bern, HDir, S42, WCA5	
B	SJ3547#	Pipistrellus pipistrellus <i>(Common Pipistrelle/Ystlum Lleiaf)</i>	1985	Anon					D1072/001/01 (408445)	Bonn, Bern, HDir, S42, WCA5	
B	SJ3248#	Pipistrellus pipistrellus <i>(Common Pipistrelle/Ystlum Lleiaf)</i>	1987	Anon			Erddig		D1072/001/01 (408470)	Bonn, Bern, HDir, S42, WCA5	
B	SJ3355#	Pipistrellus pipistrellus <i>(Common Pipistrelle/Ystlum Lleiaf)</i>	1987	Anon			Llay		D1072/001/01 (408487)	Bonn, Bern, HDir, S42, WCA5	
B	SJ3445#	Pipistrellus pipistrellus <i>(Common Pipistrelle/Ystlum Lleiaf)</i>	1982	Anon			Wrexham nr		D1072/001/01 (408516)	Bonn, Bern, HDir, S42, WCA5	
B	SJ3149#	Plecotus <i>(Plecotus)</i>	1987	Anon			Bersham		D1072/001/01 (409843)	Bonn, WCA5	
B	SJ3248#	Plecotus <i>(Plecotus)</i>	1987	Anon			Erddig Hall		D1072/001/01 (409857)	Bonn, WCA5	

Designated Sites intersecting 2000m buffer	SSSI: GATEWEN MARSH
Wildlife Sites intersecting 1000m buffer	Moss Valley, Berse Dreincourt, Erddig Estate, Big Wood, Afon Gwenfro, New Broughton Meadow, Higher Berse Marsh
NWWT Reserves intersecting 1000m buffer	None
RSPB Reserves intersecting 1000m buffer	None
RIGS intersecting 1000m buffer	None
Habitat type(s) intersecting site boundary	Amenity Grassland, Arable, Buildings, Caravan Site, Dense Scrub, Ephemeral/Short Perennial, Fen, Gardens, Improved Grassland, Introduced Scrub, Not Accessed Land, Running Water, Semi-improved Neutral Grassland, Standing Water, Swamp, Tall Ruderal Herb, Track
Ancient Woodland intersecting 1000m buffer	Ancient and Semi Natural Woodland, Plantation on Ancient Woodland Site

Important Issues

- 1. Usage of the above information is governed by Cofnod's **Terms and Conditions of Data Release** (available from Cofnod on request).
- 2. Records shown in bold typeface are sensitive species records. In this public version of the original report, the resolution of sensitive species grid references have been reduced and site names and comments have been removed.
- 3. Past records of presence of a habitat or species do not guarantee continued occurrence; absence of records does not imply absence of a species, merely that no records are held at Cofnod; Cofnod cannot guarantee the accuracy of supplied data; copyright of records remains with the original recorder.

Notes

This report should be used in conjunction with any relevant maps, where these are supplied.

Cofnod uses a search system which reports all priority or protected species within a specified search radius or buffer. Where required a search will also include high priority 'Mobile Species', such as bats, otters, amphibians and certain invertebrates, which lie outside the specified search radius. These species are highlighted on the report with an **asterisk**. They have been selected as 'Mobile Species' as their territory (possibly due to foraging activity or life cycle) could intersect with the search radius.

Records with 4 figure grid references are displayed as 1km squares on any relevant maps. They are listed separately in reports and highlighted in grey *italic* script.

Sites - Designated Sites and non-designated Wildlife Sites within 50m of the grid reference are highlighted in red. Wildlife Sites which remain unconfirmed by the relevant Local Authority are given 'Candidate' status and are displayed with the (c) suffix. The following reasons for candidate status apply: 1. Anglesey and Flintshire Wildlife Sites were identified by survey but have not been formally confirmed. 2. Conwy and Gwynedd Wildlife Sites were identified by survey and air photos and remain candidate until evaluated using selection criteria.

Dataset ID - All species records within the reports include Dataset ID codes, which can be used to cross-reference back to the relevant Metadata. The number below the Dataset ID is the individual record ID. Please quote this if you need more information on a specific record.

'V' column - Record Verification Level, for records from Category 5 and 6 datasets only. The following abbreviations apply: **4:** Probably correct, **5:** Known correct, **6:** Unconfirmed. Dataset Categories and Record Verification Levels are explained in more detail within Cofnod's policy on Data Quality, and Dataset Categories are listed within the Metadata report which accompanies this report.

Lists

ABirds - The Population Status of Birds in the UK: Birds of Conservation Concern 2002-07 (Welsh Amber listed), **BA** - Protection of Badgers Act, **BDir** - EC Birds Directive, **Bern** - Bern Convention, **Bonn** - The Bonn Convention on the Conservation of Migratory Species of Wild Animals, **Global** - Global IUCN Red List of Threatened Species, **HDir** - EU Habitats and Species Directive, **RBirds** - The Population Status of Birds in the UK: Birds of Conservation Concern 2002-07 (Welsh Red listed), **RDB01** - Red listing based on 2001 IUCN guidelines, **RDB94** - Red Listing based on 1994 IUCN guidelines, **RDBpre** - Red Data book listing based on pre 1994 IUCN guidelines, **RS** - Rare and scarce species (not based on IUCN criteria), **S42** - Natural Environment and Rural Communities Act 2006 (Section 42), **UKBAP** - UK Biodiversity Action Plan Priority Species, **WCA1.1** - Wildlife and Countryside Act Schedule 1 Part 1, **WCA1.2** - Wildlife and Countryside Act Schedule 1 Part 2, **WCA5** - Wildlife and Countryside Act Schedule 5, **WCA8** - Wildlife and Countryside Act Schedule 8

Abbreviations

Abbreviations

ANG - Isle of Anglesey, **CON** - Conwy, **DEN** - Denbighshire, **FLI** - Flintshire, **GWY** - Gwynedd, **SNO** - Snowdonia National Park, **WRE** - Wrexham, **LBAP** - Local Biodiversity Action Plan, **NWWT** - North Wales Wildlife Trust, **RSPB** - Royal Society for the Protection of Birds, **RIGS** - Regionally Important Geodiversity Sites.

Contact Us

Cofnod - Gwasanaeth Gwybodaeth Amgylcheddol Gogledd Cymru/North Wales Environmental Information Service
Intec, Ffordd y Parc, Parc Menai, Bangor. LL57 4FG **Tel:** (01248) 672603 **Fax:** (01248) 672601 **email:** info@cofnod.org.uk