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**Land at
Swansea Valley Business Park,
Ystalyfera, NPT**

PRELIMINARY ECOLOGICAL APPRAISAL

Document issued: 11^h June 2020

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SUMMARY

1. The appraisal site is located on the Swansea Valley Business Park, Ystalyfera, Neath Port Talbot centred at O.S. co-ordinates 276500E 208250N.
2. A Preliminary Ecological Appraisal was undertaken by Richard Pryce of Pryce Consultant Ecologists on 20th May 2020 using the methodology recommended by the Chartered Institute of Ecology and Environmental Management.
3. The site is located within 40m of the Afon Tawe which offers a significant wildlife corridor, and two Sites of Importance for Nature Conservation (SINCs) adopted in the current NPT Local Plan are located respectively, directly adjacent, and within about 60m. The development of the appraisal site will not impact on any of these or any other sites of nature conservation significance.
4. The appraisal concluded that there are no habitats of significance located within or in the vicinity of the appraisal site and none will be impacted by the proposals, nor do any protected species or species of significance depend upon the site.
5. No trees grow on the site, neither are there any features that might have potential to provide bat roosting or bird nesting opportunities. Faunal foraging potential is minimal and limited to opportunistic open-ground feeding species such as Jackdaw.
6. There is low potential for Badger, Hedgehog, terrestrial-phase amphibians and reptiles to visit the site but the limited foraging resources dictate that individuals are unlikely to stay for any length of time.
7. No Schedule 9 Invasive Non-Native Species such as Japanese knotweed and Himalayan balsam were recorded within the site.
8. Recommendations detailed in Section 5 will ensure that the proposed works are compliant with the relevant wildlife legislation.
9. Given the nature and limited footprint of the scheme, it is considered that the overall impact on biodiversity will be negligible and, if the recommendations at section 5 are implemented, may result in a small net gain by i) the planting of native-species hedge and boundary habitats, ii) the provision of artificial bat roosting and bird nesting features in the fabric of the new buildings and iii) the placement of features such as habitat piles to accommodate hedgehogs and reptiles. New plantings should seek to increase habitat connectivity within and in the vicinity of the site and should be of species of local provenance appropriate to preserve the character of the local landscape and include suitable species to provide faunal feeding opportunities.
10. Recommendations are also given for the timing of works to avoid, for example the bird breeding season and the winter months when animals such as Hedgehog may be hibernating and unable to escape disturbance.
11. Site personnel must be made familiar with the ecological requirements of the site at induction courses and tool-box talks.
12. Recommendations are also made in section 5 for future site maintenance which must be followed if the biodiversity of new plantings, particularly flower-rich grassland areas, is to be maintained.

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1. INTRODUCTION

Pryce Consultant Ecologists was engaged in May 2020 by W. Griffiths Architects of Llanelli to carry out a Preliminary Ecological Appraisal of two parcels of land at the Swansea Valley Business Park, Ystalyfera, located in the County Borough of Neath Port Talbot. Planning permission is being sought to construct five business workshops on the land shown as Area A on figure 2, whilst the land shown as Area B is included within the scope of the present PEA to inform any future development proposal relating to it.

The approximate O.S. co-ordinates of the centre of the site are 276500E 208250N.

Both areas of land are currently open and unoccupied. Area A was formed into a development plateau some years ago on which sparse vegetation is now established, much of which had been herbicided in the weeks prior to the field survey. Area B comprises a wide area of amenity grassland between the Asda access road and an existing building that accommodates various businesses.

On 20th May 2020, Richard Pryce assessed the habitats and vegetation of both parcels of land within the red lines shown on figure 3. The survey was based upon standard Phase 1 Habitat Survey methodology (Nature Conservancy Council, 1990) whilst also seeking and noting faunal observations and potential faunal habitat. The survey informed the Preliminary Ecological Appraisal (PEA) which has been undertaken following the guidelines published by the Chartered Institute of Ecology and Environmental Management (CIEEM, 2017).

As far as I am aware the Planning Authority's ecologist has not yet been consulted regarding the proposed development.

As advised in the CIEEM guidelines, the Local Biological Records Centre (SEWBReC) was consulted to procure data that may be relevant to the appraisal.

The present report sets out the findings of the survey and appraises the potential impact of the proposed development upon existing ecological features.

2. DESK STUDY and PHASE 1 HABITAT SURVEY

The survey was commissioned to identify any impacts that the proposed development might have upon significant habitats and/or protected species or species of significance and to identify any constraints that may be imposed by ecological issues.

2.2 Context and Third-Party Information

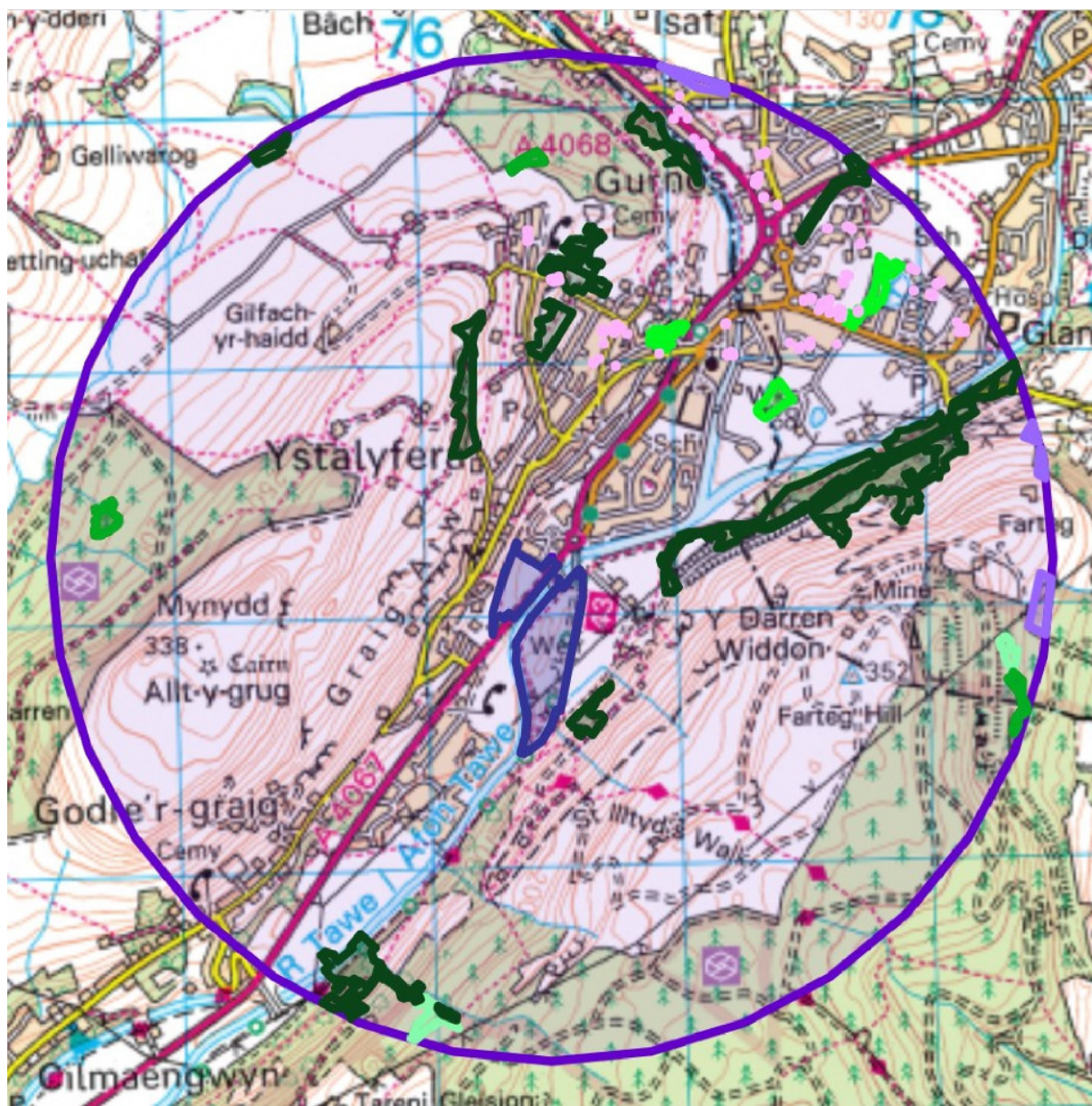
[illegible]

Boundaries of PEA survey areas enclosed by the red lines

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- 2.2.2 The South-East Wales Biodiversity Records Centre (SEWBRc) was consulted to procure protected and significant site information and past records of protected and significant floral and faunal species from within a radius of 2km of the central point of the appraisal site. The locations of protected and significant sites are shown on the SEWBRc map at figure 2 and the data received have been summarized in the paragraphs below.
- 2.2.3 There are no protected sites of European significance located within the survey site or within the 2km radius area of search. Such sites include, for example, Special Areas of Conservation (SAC) and Special Protection Areas (SPA).
- 2.2.4 There are no statutory protected sites of national significance notified as Sites of Special Scientific Interest (SSSI) under the Wildlife and Countryside Act 1981 located within the survey site or within the 2km radius area of search. However, a suite of primarily grassland SSSIs are located about 2km–5km to the west and south-west that include Gwrhyd Meadows SSSI, Cefn Gwrhyd Rhydyfro SSSI, Coed Cwm Du Cilmaengwyn SSSI, Cilybebyll SSSI and Frondeg SSSI, as well as Nant-y-Rhos SSSI located about 2.5km to the east.
- 2.2.5 Figure 2 shows the local non-statutory and priority areas supplied by SEWBRc that are located within the 2km radius area of search. These include
- the woodland **Site of Importance for Nature Conservation** (SINC) adopted in the Neath Port Talbot Local Development Plan 2014-2026 located immediately adjacent to the south-western boundary of Area A of the appraisal site, and
 - the adopted SINC located on the eastern side of the Afon Tawe, the closest point of which is 40m to the south-east of Area A. This is a good example of Open Mosaic Habitats on Previously Developed Land (OMHoPDL) and supports a wide range of floral and faunal species.
- 2.2.6 Figure 2 also shows the locations of the twenty-four **Areas of Ancient Semi-Natural Woodland** located in the area of search, the closest of which is about 500m south-southeast of Area A. There are also three areas of Restored Ancient Woodland, three areas of Plantation on an Ancient Woodland Site and four Ancient Woodland Sites of Unknown Category.
- 2.2.7 Three **NRW Priority Ancient Woodland Site Areas** and two **NRW Heathland and Grassland Priority Areas** are also indicated on figure 2.
- 2.2.8 No other sites of potential interest such as Regionally Important Geological Site (RIGS) and open access land are located within the 2km radius area of search.



Site Type	Key	Number of sites	Category	Intersection Area	Percentage of search area
Wildlife Site / SINC (Adopted)		2	Local - Non-statutory	142,768 m ²	1.14%
Ancient Semi Natural Woodland		24	Priority Area	331,163 m ²	2.65%
Restored Ancient Woodland Site		3	Priority Area	27,244 m ²	0.22%
Plantation on Ancient Woodland Site		3	Priority Area	16,176 m ²	0.13%
Ancient Woodland Site of Unknown Category		4	Priority Area	14,133 m ²	0.11%
NRW Priority Area (Woodland - PAWS)		3	Priority Area	16,176 m ²	0.13%
NRW Priority Area (Heathland and Grassland)		2	Priority Area	24,054 m ²	0.19%

Figure 2.
Local Sites of Importance for Nature Conservation, Ancient Woodland Sites and NRW Priority Areas located within the 2km radius area of search centered on the appraisal site, procured from SEWBRcC

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2.2.9 Records of European Protected Species, nationally protected species, *Species of Principal Importance for Conservation of Biological Diversity* listed under section 7 of the Environment (Wales) Act 2016 and other species of significance abstracted from the SEWBRc data from a radius of 2km from the centre of the appraisal site are listed at Tables 2.1 to 2.7, below.

Also shown is the closest distance (in metres) that the species has been recorded from the site (taken to be 276500E 208250N) together with the date of that record. The date of the latest record is also shown which invariably refers to a location more distant than the closest record. No account has been taken of records possibly duplicated in the dataset, but obvious errors (eg records from other counties which have been given grid reference that fall within the present area of search) have been omitted.

Species for which no suitable habitat is present within the appraisal site or which are considered to be highly unlikely to visit or occur within the site are included in the lists but are greyed-out.

Species such as bats and birds including birds of prey, Barn Owl, Swift, Swallow, House Martin, Sand Martin, etc, are either aerial hunters or feeders and are likely to fly-over the site from time to time but there is no habitat within the site capable of sustaining or attracting them. Other species (such as the Blue Tit family recorded during the survey that flew over the site between the mature trees to the east and the woodland to the south) may cross the site but find nothing to detain them. These are coloured light blue

It should be pointed out that protected and other significant species additional to those held on the SEWBRc database are likely to occur in the area. Therefore, the absence of a species in the tables does not necessarily imply that that particular species does not occur in, or visit the area.

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KEY TO DESIGNATIONS IN TABLES 2.1 – 2.8

- BA = Protection of Badgers Act
- UKBAP = UK Biodiversity Action Plan Priority Species
- BDir1 = EC Birds Directive Annex 1 Species
- BDir21 = EC Birds Directive Annex 2.1 Species
- BDir22 = EC Birds Directive Annex 2.2 Species
- CITES = Convention on International Trade in Endangered Species
- EPS = European Protected Species
- HDir = EU Habitats Directive Species
- NRW = Natural Resources Wales Priority Species
- RD1 (Wales) = Welsh Red Data Book listing based on IUCN guidelines
- RD1 (UK) = UK Red Data Book listing based on IUCN guidelines
- RD2 (UK) = UK Red Data Book listing not based on IUCN guidelines (Nationally Rare and Scarce)
- WBR (RSPB) = RSPB Welsh Red listed birds (not based on IUCN criteria)
- WBA_m (RSPB) = RSPB Welsh Amber listed birds (not based on IUCN criteria)
- UKBR (RSPB) = RSPB UK Red listed birds (not based on IUCN criteria)
- UKBA_m (RSPB) = RSPB UK Amber listed birds (not based on IUCN criteria)
- S7 = *Species of Principal Importance for Conservation of Biological Diversity* listed under section 7 of the Environment (Wales) Act 2016
- WCA1.1 = Bird species listed under Schedule 1 Part 1 of the Wildlife and Countryside Act 1981 as amended
- WCA5 = Species listed under Schedule 5 of the Wildlife and Countryside Act 1981 as amended
- WCA8 = Plant species listed under Schedule 8 of the Wildlife and Countryside Act 1981 as amended
- WCA9 = Species listed under Schedule 9 of the Wildlife and Countryside Act 1981 as amended
- INNS = Invasive Non-Native Species
- WVP = IUCN Threat Listing of Welsh Vascular Plants
- LBAP (**NPT**) = Neath Port Talbot Local Biodiversity Action Plan Species
- LI (SEWBR_{eC}) = Locally Important Species (as identified by local specialists) in SEWBR_{eC} area.
- LI (VC41, LR) = Locally Important Species (as identified by local specialists) in Glamorgan, Locally Rare in vice county.
- LI (VC41, EX) = Locally Important Species (as identified by local specialists) in Glamorgan, Extinct in vice county.

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TABLE 2.1.
EUROPEAN PROTECTED SPECIES

Closest record to centre of site (m)	No. of records in area of search	Date of record closest to site	Most recent record in area of search	Taxonomic Group	Common Name	Scientific Name	Designations
595	11	2008	2009	mammal	Unknown Bat	Chiroptera	EPS, WCA5, LBAP (ANG, DEN, FLI, RCT, SNP, TRA, TRF)
56	121	2002	2015	mammal	Otter	Lutra lutra	EPS, HDir, WCA5, S7, Bern, CITES, RDB2 (UK), LBAP (ANG, BBNP, CER, CLY, CON, CRM, DEN, FLI, GWY, PEM, POW, SNP, TRA, TRF, VOG, WRE)
2125	1	10/07/2013	10/07/2013	mammal	Myotis Bat Species	Myotis	EPS, HDir, WCA5, Bern, LBAP (ANG, DEN, FLI, SNP, TRA, TRF)
1773	1	04/07/2011	04/07/2011	mammal	Daubenton's Bat	Myotis daubentonii	EPS, HDir, WCA5, Bern, RDB2 (UK), LBAP (ANG, CLY, CON, DEN, FLI, GWY, POW, SNP, TRA, TRF)
262	3	02/08/2003	04/07/2011	mammal	Noctule Bat	Nyctalus noctula	EPS, HDir, WCA5, S7, Bern, RDB2 (UK), LBAP (ANG, CLY, CON, DEN, FLI, GWY, POW, SNP, TRA, TRF, VOG)
263	8	12/08/2002	2018	mammal	Pipistrellus Bat Species	Pipistrellus	EPS, WCA5, LBAP (ANG, DEN, FLI, SNP, TRA, TRF)
263	6	12/08/2002	16/07/2013	mammal	Common Pipistrelle	Pipistrellus pipistrellus	EPS, HDir, WCA5, S7, Bern, RDB2 (UK), LBAP (ANG, BBNP, CER, CLY, CON, CRM, DEN, FLI, GWY, PEM, POW, SNP, TRA, TRF, VOG)
1753	7	06/12/1986	15/07/2013	mammal	Pipistrelle agg.	Pipistrellus pipistrellus agg.	EPS, HDir, WCA5, Bern, RDB2 (UK), LBAP (ANG, BBNP, CER, CLY, CON, CRM, DEN, FLI, GWY, PEM, POW, SNP, TRA, TRF, VOG)
1773	4	04/07/2011	2016	mammal	Soprano Pipistrelle	Pipistrellus pygmaeus	EPS, HDir, WCA5, S7, Bern, RDB2 (UK), LBAP (ANG, BBNP, CLY, DEN, FLI, GWY, PEM, POW, SNP, TRA, TRF, VOG)
1773	3	2011	2011	mammal	Long-eared Bat Species	Plecotus	EPS, HDir, WCA5, Bern, LBAP (ANG, DEN, FLI, SNP, TRA, TRF)
1887	3	15/07/2013	15/07/2013	mammal	Brown Long-eared Bat	Plecotus auritus	EPS, HDir, WCA5, S7, Bern, RDB2 (UK), LBAP (ANG, CLY, CON, DEN, FLI, GWY, POW, SNP, TRA, TRF, VOG)
3674	1	31/05/2017	31/05/2017	mammal	Lesser Horseshoe Bat	Rhinolophus hipposideros	EPS, HDir, WCA5, S7, Bern, RDB2 (UK), LBAP (ANG, BBNP, CLY, CON, CRM, DEN, FLI, GWY, MON, PEM, POW, SNP, TRA, TRF, VOG, WRE)

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TABLE 2.2. NATIONALLY PROTECTED SPECIES ADDITIONAL TO ABOVE

Closest record to centre of site (m)	No. of records in area of search	Date of record closest to site	Most recent record in area of search	Taxonomic Group	Common Name	Scientific Name	Designations
1842	4	1998	1998	mammal	Red Squirrel	Sciurus vulgaris	WCA5, S7, Bern, LBAP (ANG, BBNP, CON, CRM, DEN, FLI, GWY, POW, SNP)
1084	2	2010	2010	reptile	Grass Snake	Natrix helvetica	WCA5, S7, Bern, LBAP (ANG, CLY, CON, DEN, FLI, GWY, POW, SNP, TRA, VOG), LBAP (ANG, CLY, DEN, FLI, POW, SNP, TRA, VOG)
269	15	22/05/2011	07/08/2015	vasc.plant	Bluebell	Hyacinthoides non-scripta	WCA8, LBAP (ANG, CLY, CON, FLI, SNP, TRA, TRF)
1999	1	04/04/2013	04/04/2013	amphib	Common Frog	Rana temporaria	HDir, WCA5, Bern, LBAP (ANG, CLY, CON, FLI, POW, TRA)
1361	2	2007	2007	bird	Goshawk	Accipiter gentilis	WCA1.1, WCA9, CITES, LBAP (CLY, CON, POW, VOG)
2615	1	2011	2011	bird	Kingfisher	Alcedo atthis	BDir1, WCA1.1, Bern, LBAP (CLY, CON, DEN, FLI, GWY, POW, TRA), WBAm(RSPB), UKBAm(RSPB)
990	5	2007	2010	bird	Peregrine	Falco peregrinus	BDir1, WCA1.1, Bern, CITES, LBAP (ANG, CLY, CON, GWY, PEM, POW, TRF, VOG), LI(VC43)
1772	2	2007	2007	bird	Hobby	Falco subbuteo	WCA1.1, Bern, CITES, LBAP (CON, GWY, POW, VOG), WBAm(RSPB), LI(VC43)
1826	1	24-25/01/2009	24-25/01/2009	bird	Brambling	Fringilla montifringilla	WCA1.1, LBAP (CON)
571	13	13/05/2014	01/03/2017	bird	Red Kite	Milvus milvus	BDir1, WCA1.1, WCA9, CITES, LBAP (CON, CRM, GWY, POW), WBAm(RSPB)
269	1	07/12/2006	07/12/2006	bird	Leach's Petrel	Oceanodroma leucorhoa	BDir1, WCA1.1, Bern, LBAP (CON), WBAm(RSPB), UKBAm(RSPB)
1193	4	2004	2010	bird	Redwing	Turdus iliacus	BDir22, WCA1.1, LBAP (CON, POW), WBAm(RSPB), UKBR(RSPB)
2615	1	2010	2010	bird	Fieldfare	Turdus pilaris	BDir22, WCA1.1, LBAP (CON, POW), WBAm(RSPB), UKBR(RSPB)
567	16	01-28/02/2005	08/11/2019	bird	Barn Owl	Tyto alba	WCA1.1, WCA9, Bern, CITES, LBAP (ANG, CLY, CON, CRM, DEN, FLI, GWY, PEM, POW, SNP, TRA, VOG, WRE), WBAm(RSPB), LI(VC43)
2187	50	16/06/2017	2019	butterfly	Marsh Fritillary	Euphydryas aurinia	HDir, WCA5, S7, Bern, RDB1 (UK) - VU, LBAP (ANG, BBNP, CER, CON, CRM, GWY, PEM, POW, SNP, TRA, VOG), LI(SEWBRcC)
2335	1	28/04/1998	28/04/1998	mammal	Water Vole	Arvicola amphibius	WCA5, S7, LBAP (ANG, BBNP, CER, CLY, CON, CRM, DEN, FLI, GWY, PEM, POW, SNP, TRA, TRF, VoG)

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TABLE 2.3.

SECTION 7 SPECIES OF PRINCIPAL IMPORTANCE and UK BIODIVERSITY ACTION PLAN
PRIORITY SPECIES, NRW PRIORITY SPECIES and RSPB RED LIST BIRD SPECIES
ADDITIONAL TO ABOVE

Closest record to centre of site (m)	No. of records in area of search	Date of record closest to site	Most recent record in area of search	Taxonomic Group	Common Name	Scientific Name	Designations
983	1	13/05/1998	13/05/1998	beetle	Stag Beetle	Lucanus cervus	HDir, WCA5, S7, Bern, RDB2 (UK) - NB
2786	1	01/05/2012	01/05/2012	bird	Lesser Redpoll	Acanthis cabaret	S7, WBR(RSPB), LBAP (CON), LBAP (DEN, POW, VOG), UKBR(RSPB)
1238	2	02/04/2013	02/04/2013	bird	Skylark	Alauda arvensis	BDir22, S7, LBAP (ANG, BBNP, CER, CLY, CON, CRM, DEN, FLI, GWY, PEM, POW, SNP, TRF, VOG), WBAm(RSPB), UKBR(RSPB)
731	3	22/05/2011	01/05/2012	bird	Tree Pipit	Anthus trivialis	S7, Bern, LBAP (CON, DEN, FLI, GWY, POW, VOG), WBAm(RSPB), UKBR(RSPB)
269	8	2010	2010	bird	Black-headed Gull	Chroicocephalus ridibundus	BDir22, S7, WBR(RSPB), LBAP (GWY, VOG), UKBAm(RSPB)
1193	3	2004	21/04/2009	bird	Cuckoo	Cuculus canorus	S7, WBR(RSPB), LBAP (CON, DEN, FLI, GWY, VOG), UKBR(RSPB)
2615	2	2010	2010	bird	Reed Bunting	Emberiza schoeniclus	S7, Bern, LBAP (BBNP, CER, CLY, CON, DEN, FLI, GWY, PEM, POW, VOG), WBAm(RSPB), UKBAm(RSPB)
1239	1	06/06/2006	06/06/2006	bird	Kestrel	Falco tinnunculus	S7, Bern, CITES, WBR(RSPB), LBAP (ANG, CLY, CON, DEN, FLI, GWY, PEM, POW, VOG), LI(VC43), UKBAm(RSPB)
2615	2	2010	2010	bird	Herring Gull	Larus argentatus	BDir22, S7, WBR(RSPB), LBAP (CON, GWY, POW, VOG), UKBR(RSPB)
2480	1	29/04/2003	29/04/2003	bird	Linnet	Linaria cannabina	S7, Bern, WBR(RSPB), LBAP (ANG, BBNP, CER, CLY, DEN, FLI, PEM, VOG), LBAP (CON, GWY), UKBR(RSPB)
1328	1	03/05/2008	03/05/2008	bird	Spotted Flycatcher	Muscicapa striata	S7, Bern, WBR(RSPB), LBAP (BBNP, CER, CLY, CON, DEN, FLI, GWY, PEM, POW, VOG), UKBR(RSPB)
1615	13	2003	04/05/2015	bird	House Sparrow	Passer domesticus	S7, LBAP (CLY, CON, FLI, GWY, VOG), WBAm(RSPB), UKBR(RSPB)
1318	12	26/06/2013	2009-2015	bird	Wood Warbler	Phylloscopus sibilatrix	S7, WBR(RSPB), LBAP (CON, GWY, SNP, VOG), UKBR(RSPB)

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1999	1	04/05/2015	04/05/2015	bird	Willow Tit	Poecile montana	S7, Bern, WBR(RSPB), LBAP (BBNP, DEN, FLI, POW, VOG), LBAP (CON, GWY), LI(VC43), UKBR(RSPB)
269	10	16/04/2007	01/01/2017	bird	Dunnock	Prunella modularis	S7, Bern, LBAP (CON, POW, VOG), UKBAm(RSPB)
1582	5	18/02/2017	18/02/2017	bird	Bullfinch	Pyrrhula pyrrhula	S7, WBR(RSPB), LBAP (BBNP, CER, CLY, CON, DEN, FLI, GWY, PEM, TRF, VOG), UKBAm(RSPB)
1193	13	2004	2010	bird	Starling	Sturnus vulgaris	BDir22, S7, Bern, WBR(RSPB), LBAP (BBNP, CON, FLI, GWY, VOG), UKBR(RSPB)
269	16	2008	01/01/2017	bird	Song Thrush	Turdus philomelos	BDir22, S7, Bern, LBAP (ANG, BBNP, CER, CLY, CON, DEN, FLI, GWY, PEM, POW, SNP, TRF, VOG, WRE), WBAm(RSPB), UKBR(RSPB)
1238	5	08/03/2007	2011-2012	bird	Ring Ouzel	Turdus torquatus	S7, Bern, WBR(RSPB), LBAP (BBNP, CON, DEN, FLI, GWY, POW, VOG), LI(VC43), UKBR(RSPB)
633	4	01/01/1980	1993	bony fish	Eel	Anguilla anguilla	S7, RDB1 (UK) - CR, LBAP (CLY, CON, GWY, VOG)
562	2	01/08/2005	01/08/2005	bony fish	Atlantic Salmon	Salmo salar	HDir, S7, Bern, RDB2 (UK), LBAP (CLY, CON, DEN, FLI, GWY, POW, TRA, VOG)
562	5	01/08/2005	01/08/2005	bony fish	Brown/Sea Trout	Salmo trutta	S7, LBAP (BGW, CLY, CON, GWY, MTR, RCT, TRA, TRF, VOG), LI(BIS)
2656	1	13/06/2018	13/06/2018	butterfly	Small Pearl-bordered Fritillary	Boloria selene	S7, RDB1 (UK) - NT, LBAP (BGW, BRG, CON, DEN, FLI, GWY, MTR, NEW, POW, RCT, SNP, SWN , TRF, VOG), LI(SEWBRcC), LI(VC43)
262	5	02/08/2003	2003	butterfly	Small Heath	Coenonympha pamphilus	S7, RDB1 (UK) - NT, LBAP (GWY, VOG)
2130	1	2001	2001	butterfly	Grayling	Hipparchia semele	S7, RDB1 (UK) - VU, LBAP (BRG, CDF, GWY, RCT, VOG), LI(SEWBRcC), LI(VC43)
633	1	01/01/1980	01/01/1980	jawless fish	River Lamprey	Lampetra fluviatilis	HDir, S7, Bern, RDB2 (UK), LBAP (BBNP, CON, DEN, FLI, GWY, POW, VOG)
323	16	13/04/2011	2019	mammal	Hedgehog	Erinaceus europaeus	S7, Bern, LBAP (ANG, BGW, BRG, CON, FLI, GWY, NEW, POW, RCT, VOG)
1206	4	2004	2004	mammal	Badger	Meles meles	BA, Bern, LBAP (CLY, CON, DEN, FLI, PEM, POW, TRF, WRE)
721	4	30/08/2006	28/11/2018	mammal	Polecat	Mustela putorius	HDir, S7, Bern, RDB2 (UK), LBAP (BGW, BRG, CON, FLI, GWY, NEW, POW, SNP, VOG)
2269	1	2005	2005	moth	Grey Dagger	Acronicta psi	S7, LBAP (GWY, VOG)
262	29	02/08/2003	2004	moth	Knot Grass	Acronicta rumicis	S7, LBAP (GWY, VOG)

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2269	6	1999	1999	moth	Green-brindled Crescent	Allophyes oxyacanthae	S7, LBAP (GWY, VOG)
262	3	02/08/2003	02/08/2003	moth	Ear Moth	Amphipoea oculea	S7, LBAP (GWY, VOG)
2269	8	2004	2004	moth	Dusky Brocade	Apamea remissa	S7, LBAP (GWY, VOG)
2269	42	2005	2005	moth	Garden Tiger	Arctia caja	S7, LBAP (GWY, VOG)
2269	16	2004	2004	moth	Mottled Rustic	Caradrina morpheus	S7, LBAP (GWY, VOG)
262	46	02/08/2003	2008	moth	Broom Moth	Ceramica pisi	S7, LBAP (GWY, VOG)
1984	15	24/08/2001	2003	moth	Sallow	Cirrhia icteritia	S7, LBAP (GWY, VOG)
2269	2	2003	2003	moth	Goat Moth	Cossus cossus	S7, LBAP (BRG, NEW, POW)
1984	25	2000	2003	moth	Small Square-spot	Diarsia rubi	S7, LBAP (GWY, VOG)
1984	320	2001	2008	moth	Small Phoenix	Ecliptopera silaceata	S7, LBAP (GWY, VOG)
2269	22	2003	2003	moth	September Thorn	Ennomos erosaria	S7, LBAP (VOG)
1984	15	2000	2003	moth	Dusky Thorn	Ennomos fuscantaria	S7, LBAP (GWY, VOG)
2269	2	2003	2003	moth	August Thorn	Ennomos quercinaria	S7, LBAP (GWY, VOG), LI(BIS)
2269	2	1999	1999	moth	Galium Carpet	Epirrhoe galiata	S7, LBAP (GWY, VOG)
2269	6	2003	2003	moth	Autumnal Rustic	Eugnorisma glareosa	S7, LBAP (GWY, VOG)
2269	2	1999	1999	moth	Garden Dart	Euxoa nigricans	S7, LBAP (GWY)
2269	2	2000	2000	moth	Dusky Dart	Euxoa tritici	S7, LBAP (GWY)
2269	80	2005	2005	moth	Small Emerald	Hemistola chrysoprasaria	S7, LBAP (GWY, VOG)
2269	4	2001	2001	moth	Ghost Moth	Hepialus humuli	S7, LBAP (GWY, VOG)
2269	22	2005	2005	moth	Rustic	Hoplodrina blanda	S7, LBAP (GWY, VOG)
2269	12	2003	2003	moth	Rosy Rustic	Hydraecia micacea	S7, LBAP (GWY, VOG)
2269	10	2004	2004	moth	Shoulder-striped Wainscot	Leucania comma	S7, LBAP (GWY, VOG)
2269	10	2003	2003	moth	Rosy Minor	Litoligia literosa	S7, LBAP (GWY, VOG)
1984	111	2005	2005	moth	Brindled Beauty	Lycia hirtaria	S7, LBAP (GWY, VOG)
2269	2	2001	2001	moth	V-Moth	Macaria wauaria	S7, LBAP (BRG)
2269	70	2005	2005	moth	Dot Moth	Melanchra persicariae	S7, LBAP (GWY, VOG)
1984	18	2000	2004	moth	Oblique Carpet	Orthonama vittata	S7, LBAP (BRG), LI(BIS)
2269	34	2004	2004	moth	Powdered Quaker	Orthosia gracilis	S7, LBAP (GWY, VOG)
1984	159	30/05/2000	2005	moth	White Ermine	Spilosoma lubricipeda	S7, LBAP (GWY, VOG)
2006	234	21/06/2001	2005	moth	Buff Ermine	Spilosoma lutea	S7, LBAP (GWY, VOG)
2269	4	2003	2003	moth	Anomalous	Stilbia anomala	S7, LBAP (GWY, VOG)
1984	16	24/08/2001	2003	moth	Hedge Rustic	Tholera cespitis	S7, LBAP (GWY, VOG)
1984	72	2001	2005	moth	Blood-vein	Timandra comae	S7, LBAP (VOG)
262	36	02/08/2003	2005	moth	Cinnabar	Tyria jacobaeae	S7, LBAP (GWY, VOG)
2269	12	2004	2004	moth	Oak Hook-tip	Watsonalla binaria	S7, LBAP (GWY, VOG)
262	60	02/08/2003	2005	moth	Dark-barred Twin-spot Carpet	Xanthorhoe ferrugata	S7, LBAP (GWY, VOG)

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TABLE 2.4.
RSPB UK and WELSH AMBER LIST BIRD SPECIES

Closest record to centre of site (m)	No. of records in area of search	Date of record closest to site	Most recent record in area of search	Taxonomic Group	Common Name	Scientific Name	Designations
269	6	28/06/2003	06/06/2006	bird	Common Sandpiper	Actitis hypoleucos	WBAm(RSPB), UKBAm(RSPB)
1193	11	2004	2017	bird	Long-tailed Tit	Aegithalos caudatus	WBAm(RSPB)
269	6	16/04/2007	2012	bird	Mallard	Anas platyrhynchos	BDir21, LBAP (CON, GWY), WBAm(RSPB), UKBAm(RSPB)
990	8	2003	2010	bird	Meadow Pipit	Anthus pratensis	Bern, LBAP (CON), WBAm(RSPB), UKBAm(RSPB)
262	6	02/08/2003	13/05/2014	bird	Swift	Apus apus	LBAP (BRG, RCT, VOG), WBAm(RSPB), UKBAm(RSPB)
74	43	01/03/2017	30/11/2017	bird	Dipper	Cinclus cinclus	Bern, LBAP (BRG, CLY, CON, MTR, POW, RCT, TRA), WBAm(RSPB), UKBAm(RSPB)
269	5	28/06/2003	2006	bird	House Martin	Delichon urbicum	Bern, LBAP (BRG, CON, POW, RCT, VOG), WBAm(RSPB), UKBAm(RSPB)
798	7	19/06/2018	19/06/2018	bird	Swallow	Hirundo rustica	Bern, LBAP (ANG, CON, GWY, POW, VOG), WBAm(RSPB)
2615	3	2011	2011	bird	Lesser Black-backed Gull	Larus fuscus	BDir22, LBAP (CON, GWY, PEM, POW, SNP), WBAm(RSPB), UKBAm(RSPB)
990	3	2003	2011	bird	Wheatear	Oenanthe oenanthe	Bern, LBAP (BRG, CON, POW), WBAm(RSPB)
1193	10	2004	2017	bird	Coal Tit	Parus ater	Bern, LBAP (CON, POW), WBAm(RSPB)
410	1	02/11/2013	02/11/2013	bird	Cormorant	Phalacrocorax carbo	LBAP (CON, GWY, POW), WBAm(RSPB)
1238	2	14/04/2011	14/04/2011	bird	Redstart	Phoenicurus phoenicurus	Bern, LBAP (CON, GWY, POW, SNP), WBAm(RSPB), UKBAm(RSPB)
269	14	2011	2015	bird	Willow Warbler	Phylloscopus trochilus	WBR(RSPB), LBAP (CON), UKBAm(RSPB)
269	9	28/06/2003	23/07/2014	bird	Green Woodpecker	Picus viridis	Bern, LBAP (CLY, CON, DEN, FLI, GWY, PEM, POW, SNP), WBAm(RSPB)
269	13	16/04/2007	28/04/2016	bird	Goldcrest	Regulus regulus	Bern, LBAP (CON, POW), WBAm(RSPB)
269	3	2007	07/05/2012	bird	Sand Martin	Riparia riparia	Bern, LBAP (CON, DEN, FLI, GWY, POW, VOG), WBAm(RSPB)
1626	5	12/02/2009	25/01/2011	bird	Woodcock	Scolopax rusticola	BDir21, LBAP (CON, DEN, FLI, GWY, POW), WBAm(RSPB), LI(VC43), UKBR(RSPB)
1999	2	07/05/2012	07/05/2012	bird	Garden Warbler	Sylvia borin	LBAP (BRG, CON, POW), WBAm(RSPB)
269	5	22/05/2011	01/05/2012	bird	Whitethroat	Sylvia communis	LBAP (CON, POW), WBAm(RSPB)

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TABLE 2.5.
RED DATA BOOK 2 (UK) VASCULAR PLANT SPECIES ADDITIONAL TO ABOVE

Closest record to centre of site (m)	No. of records in area of search	Date of record closest to site	Most recent record in area of search	Taxonomic Group	Common Name	Scientific Name	Designations
2368	2	1973	1973	vasc. plant	Green-leaved Hawkweed	Hieracium acuminatum	RDB2 (UK) - R, LI(VC50, LR), LI(VC50, LS)
2646	1	12/08/2015	12/08/2015	vasc. plant	Welsh Poppy	Meconopsis cambrica	RDB2 (UK) - S, LBAP (CON, DEN, NPT), LI(VC43), LI(VC48, LS), LI(VC49, LS)
1999	1	06/06/2006	06/06/2006	vasc. plant	Stream Water-Crowfoot	Ranunculus penicillatus ssp.penicillatus	RDB2 (UK) - S, LBAP (GWY), LI(VC49, LR), LI(VC52, LR)
269	3	07/08/2015	07/08/2015	vasc. plant	Northern Yellow-cress	Rorippa islandica	RDB2 (UK) - S, LBAP (GWY), LI(SEWBReC), LI(VC47), LI(VC48, LR), LI(VC50, LR), LI(VC52, LR)
731	1	22/05/2011	22/05/2011	vasc. plant	Charlock	Sinapis arvensis	RDB1 (Wales) - VU

TABLE 2.6.
LOCALLY IMPORTANT SPECIES IN GLAMORGAN AND
RED DATA BOOK 1 (Wales) BRYOPHYTE (MOSS) SPECIES ADDITIONAL TO ABOVE

Closest record to centre of site (m)	No. of records in area of search	Date of record closest to site	Most recent record in area of search	Taxonomic Group	Common Name	Scientific Name	Designations
269	1	07/04/2016	07/04/2016	moss	Broadleaf Grimmia	Schistidium platyphyllum	RDB1 (Wales) - LC, LI(VC35, LS), LI(VC41, LR), LI(VC42, LR), LI(VC43, LR), LI(VC47, LR)
2646	2	2014	2014	moss	Park Yoke-moss	Zygodon rupestris	RDB1 (Wales) - LC, LI(VC35, LR), LI(VC41, LR), LI(VC45, LS), LI(VC50, LR), LI(WWBIC)

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TABLE 2.7.
LOCALLY IMPORTANT SPECIES IN NEATH PORT TALBOT
and the SEWBrEC AREA ADDITIONAL TO ABOVE

Closest record to centre of site (m)	No. of records in area of search	Date of record closest to site	Most recent record in area of search	Taxonomic Group	Common Name	Scientific Name	Designations
2269	2	2003	2003	butterfly	Silver-washed Fritillary	Argynnis paphia	LBAP (BRG, CDF, CON, FLI, MON, NEW, POW, SWN), LI(SEWBrEC), LI(VC43)
2646	1	18/06/1984	18/06/1984	dragonfly	Beautiful Demoiselle	Calopteryx virgo	LBAP (CLY, SNP), LI(BIS), LI(SEWBrEC)
990	4	2003	2003	dragonfly	Golden-ringed Dragonfly	Cordulegaster boltonii	LBAP (CLY, SNP), LI(BIS), LI(SEWBrEC)
269	2	22/05/2011	22/05/2011	vasc.plant	Fragrant Agrimony	Agrimonia procera	LBAP (BRG, GWY), LI(SEWBrEC), LI(VC43), LI(VC47), LI(VC48, LS), LI(VC49, LR), LI(VC50, LR), LI(VC51, LS)
518	1	31/08/2015	31/08/2015	vasc.plant	Corncockle	Agrostemma githago	LI(SEWBrEC), LI(VC51, LR)
2368	1	07/1973	07/1973	vasc.plant	Smooth Lady's-mantle	Alchemilla glabra	LBAP (BGW), LI(SEWBrEC), LI(VC47)
2368	2	2002	2002	vasc.plant	Intermediate Lady's-mantle	Alchemilla xanthochlora	LI(SEWBrEC), LI(VC47), LI(VC50, LS), LI(VC51, LS), LI(VC52, LS)
2368	1	07/1970	07/1970	vasc.plant	Trifid Bur-marigold	Bidens tripartita	LI(VC47), LI(VC48, LS), LI(VC49, LR), LI(VC50, LS), LI(VC51, LS)
2037	1	24/08/1981	24/08/1981	vasc.plant	Intermediate Water-Starwort	Callitriche hamulata agg.	LI(SEWBrEC), LI(VC47)
1193	2	2004	2004	vasc.plant	Cyperus Sedge	Carex pseudocyperus	RDB1 (Wales) - NT, LBAP (GWY), LI(SEWBrEC), LI(VC47), LI(VC48, LR), LI(VC49, LR), LI(VC52, LR)
157	1	09/09/2011	09/09/2011	vasc.plant	Greater Pond-sedge	Carex riparia	LBAP (BRG, DEN, GWY), LI(SEWBrEC), LI(VC43), LI(VC47), LI(VC48, LS), LI(VC49, LS), LI(VC50, LS), LI(VC52)
687	1	11/09/2014	11/09/2014	vasc.plant	Greater Knapweed	Centaurea scabiosa	LI(SEWBrEC), LI(VC47), LI(VC48, LR), LI(VC49, LR), LI(VC50, LS)
1528	3	24/08/1982	1983	vasc.plant	Many-stalked Spike-rush	Eleocharis multicaulis	LBAP (BGW), LI(SEWBrEC), LI(VC47), LI(VC50, LR), LI(VC51, LR)

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2019	1	12/08/2015	12/08/2015	vasc.plant	Eyebright	Euphrasia micrantha	RDB1 (Wales) - VU, RDB1 (UK) - DD, LI(SEWBRReC), LI(VC48, LR), LI(VC49, LR), LI(VC51, LR)
1731	4	25/08/2013	23/07/2014	vasc.plant	Small Cudweed	Filago minima	LBAP (BRG, CON, DEN), LI(SEWBRReC), LI(VC43), LI(VC47), LI(VC48, LR), LI(VC49, LS), LI(VC50, LR), LI(VC51, LR), LI(VC52, LS)
1615	1	27/04/2014	27/04/2014	vasc.plant	Water Avens	Geum rivale	LI(SEWBRReC), LI(VC52, LR)
441	3	08/07/2002	2004	vasc.plant	Alternate Water-milfoil	Myriophyllum alterniflorum	LBAP (BGW, NPT), LI(SEWBRReC), LI(VC47), LI(VC50, LS), LI(VC51, LS)
699	1	2007	2007	vasc.plant	Hawkweed Oxtongue	Picris hieracioides	LI(SEWBRReC), LI(VC43), LI(VC49, LR), LI(VC50, LR), LI(VC51, LR)
2037	1	24/08/1981	24/08/1981	vasc.plant	Small Pondweed	Potamogeton berchtoldii	LBAP (GWY), LI(SEWBRReC), LI(VC43), LI(VC47), LI(VC48, LS), LI(VC49, LS), LI(VC51, LS)
2368	1	24/08/1978	24/08/1978	vasc.plant	Round-leaved Dog-rose	Rosa obtusifolia	LI(SEWBRReC), LI(VC47), LI(VC50, LR)
269	1	22/05/2011	22/05/2011	vasc.plant	Knotted Pearlwort	Sagina nodosa	LI(SEWBRReC), LI(VC43), LI(VC47), LI(VC50, LS), LI(VC51, LS)
2368	1	18/07/2002	18/07/2002	vasc.plant	Purple Willow	Salix purpurea	LBAP (BGW), LI(SEWBRReC), LI(VC43), LI(VC47), LI(VC48, LS), LI(VC50, LR), LI(VC51, LR), LI(VC52, LS)
1193	2	2004	2004	vasc.plant	Grey Club-rush	Schoenoplectus tabernaemontani	LBAP (CON), LI(SEWBRReC), LI(VC47), LI(VC50, LR)
2269	2	2005	2005	moth	Red-necked Footman	Atolmis rubricollis	LBAP (MTR, NPT), LI(BIS)
2269	4	2001	2001	moth	Bleached Pug	Eupithecia expallidata	LBAP (BGW, BRG, CLY, NPT)
2269	6	2002	2002	moth	Alder Kitten	Furcula bicuspis	LBAP (NPT), LI(BIS)
384	5	2003	2005	moth	Devon Carpet	Lampropteryx oregiata	LBAP (BRG, CLY, NPT), LI(BIS)

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2.2.10 Invasive Non-Native Species (INNS)

The SEWBR_eC dataset includes the Invasive Non-Native Species listed at Table 2.8 as having been recorded within 2km of the survey site.

No INNS were recorded during the present survey.

TABLE 2.8.

INVASIVE NON-NATIVE SPECIES RECORDED FROM WITHIN THE 2km RADIUS AREA OF SEARCH ABSTRACTED FROM THE SEWBR_eC DATABASE

Key to Designations

WCA9 = Species listed under Schedule 9 of the Wildlife and Countryside Act 1981 as amended

INNS = Invasive Non-Native Species

Closest record to centre of site (m)	No. of records in area of search	Date of record closest to site	Most recent record in area of search	Taxonomic Group	Common Name	Scientific Name	Designations
1883	2	2019	2019	mammal	Grey Squirrel	Sciurus carolinensis	WCA9, INNS
269	1	26/04/2017	26/04/2017	vasc.plant	Three-cornered Garlic	Allium triquetrum	WCA9, INNS
2645	1	23/07/2014	23/07/2014	vasc.plant	Wall Cotoneaster	Cotoneaster horizontalis	WCA9, INNS
1937	4	07/07/2012	04/02/2014	vasc.plant	Himalayan Cotoneaster	Cotoneaster simonsii	WCA9, INNS
1193	1	2004	2004	vasc.plant	New Zealand Pigmyweed	Crassula helmsii	WCA9, INNS
269	12	27/04/2014	12/08/2015	vasc.plant	Montbretia	C. x crocosmiiflora	WCA9, INNS
1999	9	2013	2015	vasc.plant	New Zealand Willowherb	Epilobium brunnescens	INNS
157	27	2017	2017	vasc.plant	Japanese Knotweed	Fallopia japonica	WCA9, INNS
2368	2	2002	2002	vasc.plant	Spanish Bluebell	Hyacinthoides hispanica	INNS
269	2	27/04/2014	27/04/2014	vasc.plant	Hybrid Bluebell	Hyacinthoides x massartiana	INNS
157	11	29/08/2017	29/08/2017	vasc.plant	Himalayan Balsam	Impatiens glandulifera	WCA9, INNS
2269	2	2005	2005	vasc.plant	Variegated Yellow Archangel	Lamium galeobdolon ssp. argentatum	WCA9, INNS
2368	1	02/01/2017	02/01/2017	vasc.plant	Himalayan Honeysuckle	Leycesteria formosa	INNS
269	1	27/04/2014	27/04/2014	vasc.plant	Cherry Laurel	Prunus laurocerasus	INNS
269	5	27/04/2014	27/04/2014	vasc.plant	Rhododendron ponticum	Rhododendron ponticum	WCA9, INNS
269	3	2016	2016	vasc.plant	White Stonecrop	Sedum album	INNS

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2.3 Habitat Survey Methodology

The habitats and vegetation present within the appraisal site were surveyed by Richard Pryce at approximately 1:120 scale between 11:30hrs and 13:30hrs on 20th May 2020 in cloudless, sunny weather, with an approximate temperature of 18°C in a light south - south-easterly breeze.

The methodology used was based upon that described in the *Handbook for Phase 1 habitat survey - a technique for environmental audit*. (Nature Conservancy Council, 1990), a methodology primarily intended for surveying at 1:10,000 scale. The results are presented on the Phase 1 habitat map at figure 3 which includes codes showing the locations of dominant and significant plant species. The locations of Target Notes (TN) are also shown. Brief descriptions of each habitat type are given below in the order set out in the *Handbook*. The Target Notes include comprehensive species lists (including their Latin names) and are reproduced at appendix 2. Lists of species collated from the target notes are included at appendix 3.

2.4 The setting of the Appraisal Site

The site is located on the north-west side of the A4067 Swansea Valley Road within the southern part of the Swansea Valley Business Park. It is divided into two areas as shown on figure 3, Area A being enclosed by palisade fencing on three sides with the fourth side (adjacent to the A4067) remaining open whilst Area B is not fenced but is completely open. The landform and habitats are of anthropogenic origin being located on the site of the long-removed and now reclaimed Ystalyfera Iron and Tinplate Works. The immediate vicinity includes the building accommodating business workshop units, a network of roads and grass-verges, the four cottages known as Office Row (which survive from the time of the ironworks) and amenity tree plantings. The Asda store and associated car parks are located to the north.

Across the A4067 to the south-east is the woodland-lined course of the Afon Tawe, beyond which is an extensive area of unoccupied land, once part of the ironworks complex that now accommodates rough ground of rubble and sub-soil tipping, colonising scrub and small ponds of standing water which extend to the former railway line, now a footpath and cycleway. The steep eastern valley side extends beyond and includes rough acid grassland, scattered scrub, bracken, old quarry workings and areas of scree.

To the west, the mainly wooded valley side rises towards Panteg and Cyfyng Road, beyond which is a mosaic of habitats comprising woodland, scrub, rough grassland, old quarry workings and farmland pasture fields. The general area has potential to harbour a rich variety of wildlife but the appraisal site itself is devoid of any such diversity.

The Afon Tawe provides a substantial habitat corridor providing connectivity between habitats to the north-east with those to the south-west.

2.5 Semi-natural broad-leaf woodland and trees

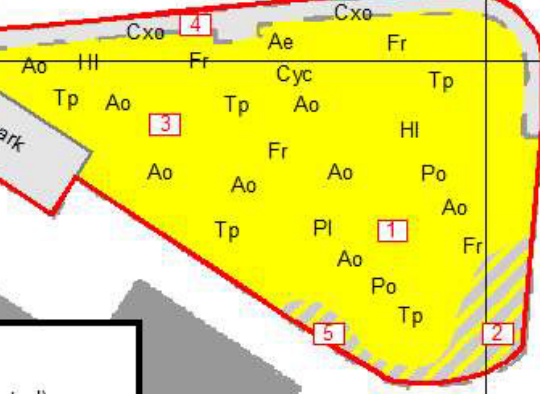
No trees are present within either Area A or B although a few young self-sown saplings of Grey Willow, Downy Birch, ?White Willow, Common Gorse and Butterfly-bush are becoming established on Area A where seedlings of Sycamore and Common Alder were also noted.

However, an area of semi-natural broad-leaf woodland occurs immediately adjacent to the south-western, palisade fenced boundary of Area A (Target Note TN9). This woodland has been designated as a Site of Importance for Nature Conservation (SINC) by Swansea Council in the 2019 Local Plan. In addition, mature woodland lines the course of the Afon

AREA B

Asda access road

new car park



SPECIES CODES

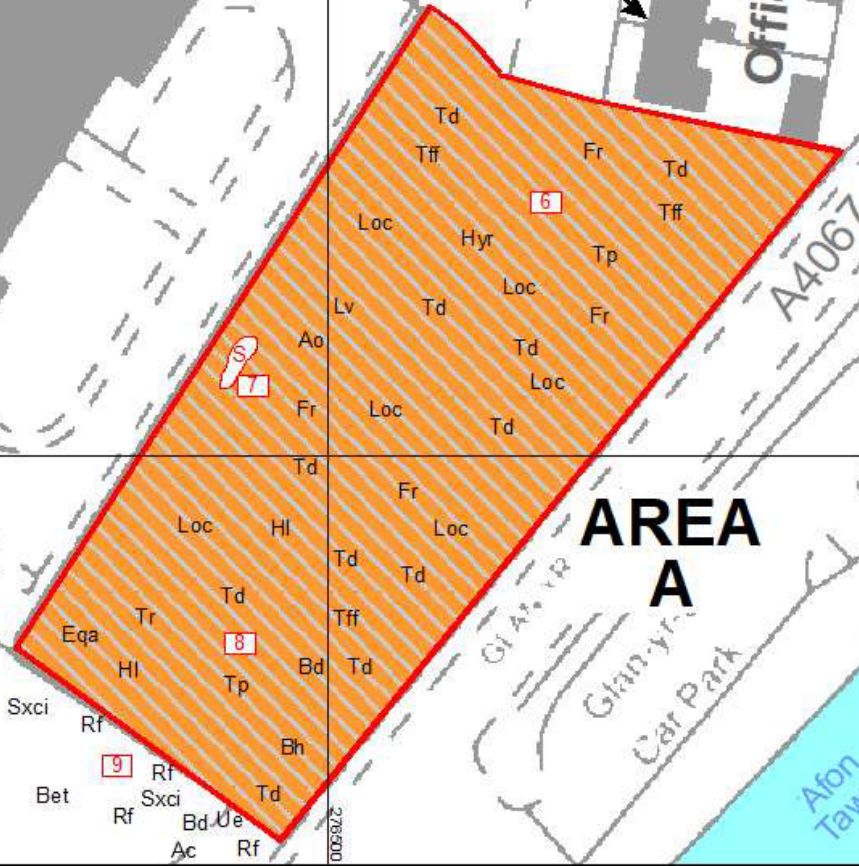
Ac	Field Maple	<i>Acer campestre</i> (planted)
Ae	False Oat-grass	<i>Arrhenatherum elatius</i>
Ao	Sweet Vernal-grass	<i>Anthoxanthum odoratum</i>
Bd	Butterfly-bush	<i>Buddleja davidii</i>
Bet	Downy Birch	<i>Betula pubescens</i>
Bh	Soft Brome	<i>Bromus hordeaceus</i>
Cyc	Crested Dog's-tail	<i>Cynosurus cristatus</i>
Cxo	False Fox-sedge	<i>Carex otrubae</i>
Eqa	Field Horsetail	<i>Equisetum arvense</i>
Fr	Red Fescue	<i>Festuca rubra</i>
HI	Yorkshire-fog	<i>Holcus lanatus</i>
Hyr	Cat's-ear	<i>Hypochaeris radicata</i>
Loc	Common Bird's-foot Trefoil	<i>Lotus corniculatus</i>
Lv	Ox-eye Daisy	<i>Leucanthemum vulgare</i>
Pl	Ribwort Plantain	<i>Plantago lanceolata</i>
Po	Smooth Meadow-grass	<i>Poa pratensis</i> agg.
Rf	Bramble	<i>Rubus fruticosus</i> agg.
Sxci	Grey Willow	<i>Salix cinerea</i>
Td	Yellow Trefoil	<i>Trifolium dubium</i>
Tff	Colt's-foot	<i>Tussilago farfara</i>
Tp	Red Clover	<i>Trifolium pratense</i>
Tr	White Clover	<i>Trifolium repens</i>
Ue	Common Gorse	<i>Ulex europaeus</i>

Nesting House Martins

Office Row

A4067

AREA A



LEGEND

- Appraisal Site Boundary
- Herbicide secondary neutral grassland
- Amenity grassland
- Sparse grassland on shale & subsoil
- Rubble pile
- Buildings (none within site)
- Hard standings & pavements within site
- Location of Target Note - see text



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Land at
Swansea Valley Business Park
Ystalyfera

Figure 3

PRELIMINARY ECOLOGICAL APPRAISAL

0 SCALE 50
METRES



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May 2020

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Tawe which is located within about 40m, across the A4067 Swansea Valley Road to the south-east, this area also being within an adopted SINC. Mature woodland is also present lining the east-facing valley side within c.200m to the north-west.

2.6 Planted woodland and trees

There are no planted trees within the appraisal site.

Mature introduced trees including Norway Maple have been planted in the vicinity of Office Row cottages and also in the centre of the nearby roundabout and line the eastern side of the A4067. Field Maple trees have also been planted along the south-eastern edge of the woodland to the south-west of Area A (TN9).

2.7 Grassland**Area A**

Almost the whole of Area A supports a sparse secondary grassland sward established directly on the recontoured surface of the development plateau which is devoid of topsoil, the vegetation growing directly in the slag and shale substrate (TN6 and TN8). At the time of the survey the area had been partially herbicided resulting in strips of killed vegetation alternating with strips of untreated sward that was growing healthily, although desiccated, following the prolonged dry weather. Where the vegetation had been killed there is often 100% bare ground and even where not treated, the vegetation is still sparse often attaining less than 70% cover. The grass element of the sward is dominated by Red Fescue with Yorkshire-fog, Squirrel-tail fescue, Soft Brome and Creeping Bent also noted. The most abundant species, evidently best at coping with the absence of soil and the drought, appears to be Lesser Trefoil which frequently forms extensive, though sometimes rather sparse, low-growing mats with abundant yellow flowers. This species also seems to have resisted the herbicide over much of the area. Other legumes adapted to the rigorous conditions include Common Bird's-foot Trefoil, Red Clover and White Clover. Stands of Colt's-foot which had flowered earlier in the year were showing regrowth in the herbicided strips. The diverse sward is attractive to pollinating insects and, at the time of the survey, up to six Jackdaws were spread-out, methodically searching the ground for invertebrates on which to feed.

Area B

With the exception of the new car-park area in the west and the tarmac-surfaced pavement inside the northern boundary of the site, Area B is completely vegetated with regularly mown, originally sown, grass-dominated amenity grassland which, in essence, forms an extended verge between the surrounding roads (TN1, TN3). Dominant species include Red Fescue, and Smooth Meadow-grass together with Rye-grass, Crested Dog's-tail, Yorkshire-fog, Cock's-foot and Sweet Vernal-grass, often with an abundant mossy understorey. Clovers and Common Bird's-foot Trefoil are also frequent locally, with occasional Ribwort Plantain, Common Mouse-ear, Meadow Buttercup, Trailing Tormentil and Hard Rush and rare originally planted Hedge Bedstraw. This vegetation is probably best included in the National Vegetation Classification MG7f *Lolium perenne* – *Poa pratensis* grassland community.

The grassland becomes more sparse in the south-eastern corner of the area (TN2, TN5) where recent backfilled excavations have exposed the shaly and slaggy ground on which the whole area is established. In addition to most of the species listed above, Yarrow is often abundant here together with occasional or rare Mouse-eared Hawkweed and Square-stemmed St.John's-wort.

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Several plants of False Fox-sedge are present at the southern edge of the pavement on each side of the small widened pavement area (TN4). These plants are rather depauperate presumably due to frequent mowing, the drought and the poor soil. In south Wales, this is a mainly coastal species that also occurs occasionally on colliery tips and slag heaps.

2.8 Tall Herb Vegetation

No tall herb vegetation is present within the appraisal site

2.9 Open water (watercourses and ponds) and wetlands

No watercourses, ponds or wetlands are located within the appraisal site. The Afon Tawe runs less than 50m to the south-east of Area A but is unlikely to have any significant influence on the habitats or species that occur within the appraisal site.

2.10 Unvegetated areas

A small pile of rubble is located inside the north-western boundary of Area A. This material has evidently been imported from another site and, although mainly devoid of vegetation, includes a single hawkweed plant, not yet in flower at the time of the survey, but the basal leaves may be reminiscent of Green-leaved Hawkweed (*Hieracium acuminatum*), a species included in the SEWBRc data. The rubble pile also supports small stands of Ox-eye Daisy, Colt's-foot, Tufted Vetch and Trailing Tormentil.

2.11 Invasive Non-Native Species (INNS)

No Invasive Non-Native Species were recorded within the appraisal site or its immediate vicinity during the survey.

Records of INNS held on the SEWBRc database and located within 2km of the appraisal site are listed at Table 2.8. Japanese Knotweed, Himalayan Balsam and Montbretia are the most frequently recorded INNS from the area of search and occur along the banks of the nearby Afon Tawe.

Although no Japanese Knotweed or other INNS were seen during the survey, development site staff should be aware of their possible presence and be vigilant in their detection. Construction works must ensure that Japanese Knotweed stands are not disturbed in a way that would cause the spread or export of propagules from the site and site operations must comply with approved containment practices. Japanese Knotweed must be treated using approved methods prior to the commencement of any work which might cause its disturbance or spread.

2.12 Significant vegetation types and plant species

Open Mosaic Habitats on Previously Developed Land (OMHoPDL) is a *Habitat of Principal Importance for Conservation of Biological Diversity* under section 7 of the Environment (Wales) Act 2016. Prior to the regrading of the iron works spoil, the appraisal site may well have qualified as an example of this habitat but cannot now be considered as OMHoPDL.

No plants of international, national or county significance were recorded during the survey and the SEWBRc data indicate that none have been recorded within the site in the past. However, the several plants of False Fox-sedge growing along the edge of the pavement in Area B (TN4) may be considered of local significance.

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3. PROTECTED and SIGNIFICANT FAUNA**3.1 Introduction**

An assessment of the potential for habitats within the appraisal site to support protected and other significant fauna was undertaken in order to identify any constraints to the proposed development which might result from the presence of these species.

The locations of actual or potential rest sites of protected species such as bats and Badger which might be damaged, destroyed or obstructed by the proposed development were recorded during the survey but it must be noted that no targeted surveys for any of these species was undertaken during this Preliminary Appraisal.

The ecology, survey methods, conservation status and protection legislation of the protected and significant fauna included in the sections below are outlined at appendix 4.

3.2 Assessment Methods

The assessment of the potential for habitats within the appraisal site to support protected and other significant faunal species was undertaken by Richard Pryce during the Phase 1 Habitat Survey on 20th May 2020. The data procured from SEWBRc were also used in the assessment.

Badger. The habitats within the site and immediately adjacent area, including additional land at least 30m wide around the perimeter of the site (ie the distance within which it is generally considered that, if site works are undertaken, disturbance to a sett might occur), was appraised for evidence of Badger use. Such evidence includes the presence of setts (burrow systems), paths, footprints, latrines and foraging activity.

Otter. The habitats within the site and immediately adjacent area, including additional land at least 30m wide around the perimeter of the site, was appraised for evidence of Otter presence and use. Such evidence includes holts (rest sites), paths, footprints, spraint (characteristically scented faeces often placed in prominent positions generally along river and stream courses) and feeding remains.

Bats. No trees, buildings or other constructions which might have potential to harbour roosting bats are present within the appraisal site. Trees adjacent to the site were observed from the ground where accessible and assessed for features which might have the potential for bats to roost in them. Such potential includes holes, cavities, hollows/dead wood, cracks/splits and dense ivy plates. No activity surveys were undertaken for the present appraisal.

The capability of the habitats within the site to support other protected and significant species was also appraised with a view to assessing the likelihood of these species residing or occurring within the site.

A description of the habitats within the survey site is included at paragraphs 2.4 – 2.10, above.

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3.3 Assessment Results

European Protected Species

European Protected Species and their places of rest or shelter are fully protected under the 'Habitats Regulations' and a 'licence to disturb' is required to permit any disturbance to individual animals or their places of rest or shelter and, in the case of Dormice, also habitat where animals are known to reside.

3.3.1 Bats

3.3.1.1 Bat Introduction

All bats are protected under schedule 5 of the Wildlife and Countryside Act 1981 and, with the exception of Noctule Bat, all are also designated as European Protected Species under the Habitats Regulations¹. The objective of this survey would have been to identify the potential of any trees located within the appraisal site to harbour roosting bats. However, no trees are located within the site.

No bat activity survey has been carried out for this Preliminary Ecological Appraisal.

A description of the site and its habitats is included in the Phase 1 habitat survey report at paragraphs 2.4 – 2.10, above. The ecological context and legal status of bats are outlined at appendix 4.

The SEWBRc data includes 48 records of eight bat species recorded within approximately 2km of the assessment site, details of which are at tables 2.1. The closest record is 262m from the centre of the site and the most recent was made in 2017, the most frequently recorded species being the pipistrelles.

3.3.1.2 Bat Survey Method

The assessment site and its immediate vicinity was subject to a visual examination from the ground, as far as surveyor access would allow, in search of features which might be used by day-roosting bats. Such features include holes and potential access points in buildings and cracks/crevices, splits, deadwood, hollows, wood-pecker holes and ivy plates in trees.

Trees were subjectively assigned to a category of "likelihood of use", based on the scoring system detailed at table 3.1.

Table 3.1
Assessment of potential bat-roosts in trees, achieved by 'from the ground' inspection

Tree assessment category	Stage 1	Stage 2	Constraints to tree felling or disturbance
Known or confirmed roost	European Protected Species Licence is required in order to carry out the felling or disturbance legally. This will require further input from a licenced bat ecologist		

¹ The Habitats Directive (No. 92/43/EEC) requires the UK to maintain and/or restore naturally occurring habitats and species, especially those which are deemed to be vulnerable and declining and/or threatened in Europe. The requirements of the Directive are implemented through the *Conservation (Natural Habitats etc) Regulations 1994*, updated in 2010.

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Category 1* multiple features suitable for multi-animal use	Further assessment required pre-works to deter-mine use using either <u>direct examination</u> <u>survey</u> <i>and/or</i> <u>direct observation</u> <u>emergence/ entry</u> <u>survey</u>	<i>Either</i> Proceed as for a “known or confirmed roost” (above) <i>or</i> “soft felling” supervised by the ecologist	<i>Either</i> European Protected Species Licence must be procured <i>or</i> “soft felling” supervised by the ecologist
Category 1 Fewer or less suitable features, <i>and/or</i> potential for individual roosting	Further assessment will be required pre-works to determine bat use by means of a general bat- activity survey,	<i>Either</i> Proceed as for a “known or confirmed roost” (above) <i>or</i> as category 2 (below)	<i>Either</i> European Protected Species Licence must be procured <i>or</i> Take reasonable care during works- stop work & seek advice if potential roost features found
Category 2 No features visible from the ground but the size or age of the tree might or obscuring ivy might point to the potential for roost features	None unless new evidence is found during works	none	Take reasonable care during works- stop work & seek advice if potential roost features found
Category 3 no potential to host roosting bats	none	none	none

3.3.1.3 Bat Survey Results

Tree examination

There are no buildings or trees located within the assessment site.

The nearby Swansea Valley Business Park building is of sheet-clad construction typical of modern industrial units and offers little or no opportunities for bat entry. The line of cottages at Office Row are of traditional rendered masonry construction with slate roofs and are likely to offer potential sites for roosting bats.

The trees growing immediately adjacent to the south-western boundary of Area A are all young-mature broadleaf species which are insufficiently mature and of unsuitable conformation to have developed features necessary to harbour roosting bats. No bat day-roost opportunities were identified in these trees and all are assessed as having no roost potential (Category 3 on Table 3.1).

Trees growing along the south-eastern side of the A4087 are more mature than those described above and it may be possible that some have potential to harbour roosting bats

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and could be included in Category 2 (Table 3.1). Some trees established along the Afon Tawe corridor are mature and are likely to offer features that may be regarded as Category 2 or Category 1 bat roost potential. These trees, however, were not examined in detail.

The grassland habitats within Areas A and B offer little foraging potential to bats that might be roosting in the area. It is much more likely that insect production within the Tawe corridor and other nearby stands of trees and scrub, as well as the extensive unused rough land to the south-east of the Afon Tawe offer foraging potential much more attractive to foraging bats than the generally barren, open areas within the appraisal site.

The Afon Tawe corridor has considerable potential for use by bats that habitually use tree-lines and woodland-edges as flightlines guides. Similarly, tree lines and hedgerows on the valley side to the north-west of the appraisal site may offer a similar function. There are no features within the appraisal site that offer such potential.

3.3.1.4 Bat Summary

No buildings or trees are located within the appraisal site and none will be disturbed or impacted as a result of the imminent development of Area A or the potential future development of Area B.

No bat roost-use of any trees was identified in the vicinity of the site during the survey and no day-roost opportunities were identified. The Office Row cottages may have bat roost potential.

Although bats are likely to forage in the vicinity of existing nearby trees and scrub, the foraging potential of the land within the appraisal site is considered to be minimal.

There are no features within the appraisal site that bats would use as flightlines.

There are no bat related constraints to the development of either Area A or Area B.

No further bat survey is considered necessary.

3.3.2 Otter

Otter activity is known to be frequent along the Afon Tawe although no signs of animals were found during the present survey either from within the appraisal site or on the river in the vicinity of the old railway bridge located south-east of Area A.

The SEWBRc data includes 121 Otter records from within the area of search dated between 1927 and 2015, most of them since 2000, the closest of which is 56m from the site which was made in 2002.

It is unlikely that Otters would be attracted to the site due to the absence of any habitat or potential food source that might attract them, as well as the frequent disturbance by human and dog activity to which the site is subject.

Otters will not be impacted by the development of the appraisal site.

3.3.3 Dormouse

The SEWBRc data record no past observations of Dormice from within the area of search. [It should be noted, however, that there is a Dormouse record from "A48 nr Pont Abraham (east bound side). Dormouse in dormouse nest seen in a hedgerow located on the eastbound side along the A48 nr Pont Abraham roundabout. A number of dormouse gnawed

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nuts also found along the westbound and eastbound verges of the A48; between Pont Abraham roundabout and C” (the note concludes at that point). This record is located in Carmarthenshire at the western end of the M4 and has been input with the grid reference SN753089 in error for SN573089 so should be ignored as regards the present appraisal].

Although woodland in the vicinity is potentially capable of supporting Dormice, there is no suitable habitat located within the appraisal site and no signs of their presence were seen during the survey.

Dormice will not be impacted by the development of the appraisal site.

3.3.4 Great Crested Newt

The SEWBRc data record no past observations of Great Crested Newt from within the area of search. The NBN has a record from SN70 but with no more precise detail, otherwise the closest record appears to be from SN6697, near Morriston.

No breeding ponds or suitable terrestrial habitat are located within the appraisal site although suitable habitat is located on the land across the A4067 and Afon Tawe, south of Area A, both of these features representing considerable barriers to movement of newts.

Great Crested Newt will not be impacted by the development of the appraisal site.

3.3.5 Other European Protected Species

There is no habitat suitable to support other European Protected Species located within the appraisal site, neither is it anticipated that any such species will visit the site.

Nationally Protected Species

Species and their places of rest or habitats included on schedule 5 of the Wildlife and Countryside Act 1981, as amended, are protected to varying degrees and a licence may be required to permit any disturbance to individual animals or their places of rest. Such species additional to those that also have international protection include Water Vole, reptiles and amphibians. Occupied bird's nests or nests being built are also protected by the Act. The Badger and its places of rest is protected by the Protection of Badgers Act 1992.

3.3.6 Badger

No signs of Badger were seen during the survey.

The SEWBRc data includes only three Badger records from within the area of search dated between 2003 and 2004, the closest of which is 1405m from the site.

Although there is habitat which offers suitable cover in the vicinity and the open grassland of Area B might offer a limited foraging resource, it is unlikely that Badgers would be attracted to the site due its frequent disturbance by human and dog activity.

The development will not have any significant impact on the local Badger population. However, if any animals or their signs were to be found during site operations, advice should be sought from the site ecologist.

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3.3.7 Water Vole

There are no records of Water Vole from the area of search held in the SEWBRc dataset, neither is there any suitable habitat capable of supporting the species located within the appraisal site. It is also considered that the nearby banks of the Afon Tawe together with its riparian habitats are unsuitable to support the species.

Water Vole will not be impacted by the development of the appraisal site.

3.3.8 Birds

All occupied birds' nests or nests being built are protected under the Wildlife and Countryside Act 1981 and schedule 1 of the Act gives complete protection to a range of species which are under particular threat or subject to population declines. Public bodies have a duty to consider the wellbeing of species included on the list of *Species of Principal Importance for Conservation of Biological Diversity* under section 7 of the Environment (Wales) Act 2016 and in consequence these species are material considerations in the planning process. All bird species are described in this section of the present document.

No formal bird surveys have been carried out for this appraisal but all bird observations were recorded during the survey.

The appraisal site is completely open, Area A being particularly sparsely vegetated, and is subject to disturbance by humans and dogs. Furthermore, both Areas A and B have limited potential for foraging. These factors severely limit the range of birds that might be attracted to feed within the site.

Few bird species were recorded during the survey with the majority just flying-over between more suitable habitats outside the site. Species recorded are as follows.

Blackcap	Singing from woodland adjacent to Area A and in vacant land across Afon Tawe to the south-east
Carrion Crow	One in woodland adjacent to Area A
Whitethroat, Song Thrush	Singing from woodland adjacent to Area A
Blackbird, Chiffchaff	Singing from woodlands to west and adjacent to Area A
Wood Pigeon	Calling from woodlands to west and adjacent to Area A
Jay	One flying towards woodland adjacent to Area A
Jackdaw	Six feeding on ground in Area A and one flying over and one in woodland adjacent to Area A
House Martin	Nesting at Office Row and foraging over site
Swallow	Occasional birds foraging over site
Pied Wagtail	One bird flying over towards Office Row
Herring Gull	Four seen flying over, northwards
Willow Warbler	Singing in vacant land across Afon Tawe to the south-east

Both Herring Gull and Song Thrush are included as Section 7 *Species of Principal Importance* and also included on the RSPB Red List of conservation concern.

House Martin is included on the RSPB Amber List of conservation concern.

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The SEWBR_eC dataset includes numerous bird records from within about 2km of the site. Species included that are protected by their inclusion on schedule 1 of the Wildlife and Countryside Act 1981 are as follows.

Fieldfare, Redwing, Brambling	Winter visitors to the area but no suitable habitat is present within the site although woodland and mixed habitats in the vicinity may be suitable.
Goshawk, Hobby, Peregrine, Red Kite	The site could potentially form a very small part of the hunting territories of any of these raptors but it does not offer conditions to support suitable prey, therefore visits by these birds are likely to be remote in the extreme, although birds may occasionally be seen in the vicinity or even flying over the site.
Barn Owl	The site could potentially form a very small part of the hunting territory of this species but it does not offer conditions to support suitable prey, therefore visits are unlikely, although birds may occasionally be seen in the vicinity.
Kingfisher	No habitat suitable to attract this species is located within the appraisal site although the nearby Afon Tawe is likely to support breeding Kingfishers.
Leach’s Petrel	The SEWBR _e C record of this oceanic wanderer refers to a dead specimen presumably blown inland during storm conditions. No habitat suitable to support this species is located within the appraisal site.

Species in the SEWBR_eC dataset recorded from within about 2km of the site that are included as Section 7 *Species of Principal Importance* and also included on the RSPB Red List of conservation concern are as follows.

Bullfinch, Dunnock, Willow Tit, Wood Warbler, House Sparrow, Starling, Lesser Redpoll, Spotted Flycatcher, Tree Pipit, Reed Bunting	Although potentially breeding in the vicinity of the appraisal site, there is no suitable cover, foraging or breeding habitat located within the site
Cuckoo, Ring Ouzel	Not likely to breed in the vicinity and unlikely to visit the site
Kestrel	The site could potentially form a very small part of the hunting territory of this species but it does not offer conditions to support suitable prey, therefore visits by Kestrels are unlikely, although birds may occasionally be seen in the vicinity or even flying over the site
Black-headed Gull	Unlikely to visit the site although maybe seen overflying

Addition, Section 7 and Red List species such as Mistle Thrush, Skylark, Tree Pipit, Marsh Tit and Woodcock may occur in the vicinity but none are likely to visit the site.

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Species in the SEWBRc dataset recorded from within about 2km of the site that are included on the RSPB Amber List of conservation concern are as follows.

Mallard, Green Woodpecker, Long-tailed Tit, Meadow Pipit, Swift, Dipper, Coal Tit, Willow Warbler, Goldcrest, Garden Warbler, Whitethroat	Although potentially breeding in the vicinity of the appraisal site, there is no suitable cover, foraging habitat or breeding habitat located within the site
Common Sandpiper, Wheatear, Redstart	Not likely to breed in the vicinity and unlikely to visit the site
Woodcock	Winter visitor to woodland in the vicinity, unlikely to visit the site
Lesser Black-backed Gull, Cormorant	Unlikely to visit the site although maybe seen overflying, especially in the vicinity of the nearby Afon Tawe
Swift, House Martin, Swallow, Sand Martin	Breeding, or may breed in the vicinity, hunting over the site

No additional species on the RSPB Amber List are likely to visit the appraisal site.

3.3.9 Reptiles

No reptiles or their signs were seen during the present survey and only Grass Snake is included in the SEWBRc dataset as having been recorded from within 2km of the site.

The habitats within the appraisal site and its immediate vicinity are unsuitable to support reptiles. However, suitable reptile habitat occurs within the vacant land to the south of the site across the A4067 and Afon Tawe where a Grass Snake was seen during the present survey. Here there may also be potential for Slow-worm, Common Lizard and possibly Adder to occur. Even were there to be attractive habitat located within the appraisal site, both the river and road present potential barriers and it is considered that reptiles are unlikely to visit or occur within the site.

3.3.10 Amphibians

No amphibians or their signs were seen during the present survey and the only species additional to the European Protected Great Crested Newt (see paragraph 3.3.4) included in the SEWBRc dataset that has been recorded from within about 2km of the survey site is Common Frog. In addition, Common Toad and Palmate Newt are likely to occur in the vicinity.

There is no amphibian breeding habitat located within the appraisal site but small numbers of terrestrial-phase amphibians, principally Common Frog, may occur in damp grass and may take refuge in edge habitats, but the habitat is suboptimal.

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3.3.11 Protected Invertebrates

There are fifty records of Marsh Fritillary butterfly from within the area of search on the SEWBRc database but none are closer than 2187m from the appraisal site. There is no habitat suitable for this species within the site.

Species of Principal Importance

Species of Principal Importance for Conservation of Biological Diversity listed under section 7 of the Environment (Wales) Act 2016 include a range of species of all groups many of which are also included under European or national protection legislation and have been addressed above. Additional species which, by their inclusion on the section 7 list, become material considerations in the planning process, include various mammals such as Hedgehog, Brown Hare and Harvest Mouse, many birds, reptiles and amphibians, fish and invertebrates, the latter including various species of moths and butterflies.

Additional to the faunal species or species groups already addressed above, only Hedgehog, Polecat and various invertebrates may potentially occur within the survey site or its vicinity. Section 7 species included on the SEWBRc database recorded from within 2km of the survey site are listed at Table 2.3, above.

3.3.12 Hedgehog

There are sixteen records of Hedgehog from within the SEWBRc area of search, the closest being 323m from the centre of the site and the most recent, from 2019.

Hedgehogs seek cover in dense vegetation and under banks, etc and, as these features are absent from the appraisal site, animals are unlikely to visit but, if they do visit, are unlikely to linger.

3.3.13 Polecat

Four Polecat entries are included on the SEWBRc dataset, dated between 2006 and 2018, the closest being 721m from the appraisal site.

The Polecat is a very wide-ranging species, is elusive and difficult to survey. Its widely ranging activity might indicate that rare visits are possible but the absence of cover or any food resource within the appraisal site would not result in animals remaining for any length of time.

3.3.14 Section 7 Birds

All designated bird species have been assessed at paragraph 3.3.8, above.

3.3.15 Fish

River Lamprey, European Eel, Atlantic Salmon and Brown/Sea Trout are all section 7 species recorded from the SEWBRc area of search, presumably from the Afon Tawe. Bullhead is also likely to occur in the river.

There is no habitat suitable to accommodate these species within the appraisal site.

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3.3.16 Section 7 Invertebrates

The limited range of habitats within the appraisal site severely limits the range of species that it is able to support or attract.

Records from within 2km of the survey site on the SEWBRc database include Stag Beetle, Small Pearl-bordered Fritillary, Small Heath and Grayling butterflies and 38 moth species. Of these, the sparse grassland areas of bare spoil within Area A may be suitable to attract Grayling butterflies from the vacant land across the Afon Tawe to the south of the site together with some moth species. However, most species listed by SEWBRc are unlikely to visit the site due to the barrenness of the habitat.

The development of the appraisal site is unlikely to be of significance to local populations of any section 7 invertebrates.

Other Significant Species**3.3.17 Stoat and Weasel**

Stoat and Weasel are designated as a Priority Species by Natural Resources Wales but neither species is included on the SEWBRc dataset from within area or search.

These species are wide ranging, elusive and difficult to survey. Their presence in small numbers must be assumed but they are adaptable and the loss of a small area of what is very sub-optimal habitat resulting from the development of the appraisal site is unlikely to be of significance to the local populations.

3.3.18 Amber List Birds

All designated bird species have been assessed at paragraph 3.3.8, above.

3.3.19 Other significant Invertebrates

An assessment of significant invertebrates has not been carried out for this appraisal.

Records of other significant invertebrates from within the area of search held on the SEWBRc database, principally those included on Red Data Lists, include Silver-washed Fritillary butterfly, Beautiful Demoiselle damselfly and Golden-ringed Dragonfly. The habitat within the appraisal site is unsuitable to support these and most other invertebrates.

The development of the appraisal site is unlikely to be of significance to local populations of any significant invertebrate species.

Other Species

3.3.20 No additional protected or significant species are likely to be affected by the proposed development.

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Impact significance has been assessed for each of the features using a three-stage process: An assessment of ecological value; an assessment of the magnitude of the likely impacts of the proposals; and a determination of impact significance based on a combination of ecological value and magnitude of impact.

Ecological Significance

Each feature has been classified according to its ecological significance using the examples provided in Table 4.1.

Table 4.1. Assessment of Ecological Significance

Value	Examples
International	• Internationally designated or proposed sites such as Ramsar Sites, Special Protection Areas, Biosphere Reserves and Special Areas of Conservation, or otherwise meeting criteria for international designation. • Sites supporting populations of internationally important species.
UK/National	• Nationally designated sites such as Sites of Special Scientific Interest (SSSIs), or non-designated sites meeting SSSI selection criteria, National Nature Reserves (NNRs), Nature Conservancy Review (NCR) Grade 1 sites, viable areas of key habitats within the UK Biodiversity Action Plan. • Sites supporting viable breeding populations of Protected and Red Data Book (RDB) species (excluding scarce species), or supplying critical elements of their habitat requirements.
Regional	• Sites containing viable areas of threatened habitats listed in a regional Biodiversity Action Plan, comfortably exceeding Site of Importance for Nature Conservation (SINC) criteria, but not meeting SSSI selection criteria. • Sites supporting viable populations of Nationally Scarce species or those included in the Regional Biodiversity Action Plan on account of their rarity, or supplying critical elements of their habitat requirements.
County	• Sites meeting the criteria for a county or metropolitan area designation (such as SINC), which may include amenity and educational criteria in urban areas. Ancient semi-natural woodland. Designated Local Nature Reserves. Sites containing viable areas of any key habitat type identified in the Local Biodiversity Action Plan (LBAP). • Sites supporting viable breeding populations of species known to be county/metropolitan rarities e.g. featuring in county 'red data book' or LBAP, or supplying critical elements of their habitat requirements.
District	• Undesignated sites, or features considered appreciably to enrich the habitat resource within the context of the Borough or District, or included in the Borough or District LBAP. Amenity and educational functions will be recognised in urban areas.

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	Sites with viable breeding populations of species listed as rare in the District or Borough LBAP or supplying critical elements of their habitat requirements.
Local	Undesignated sites, or features considered appreciably enriching the habitat resource within the context of the Parish or neighbourhood (e.g. a species-rich hedgerow).
Not important	Low-grade and widespread habitats or feature not affected by proposals.

Magnitude and Extent of Impact

The magnitude of each predicted impact has been assessed on a scale of High, Medium, Low, Minimal, Negligible and Potential Net Gain according to the criteria in Table 4.2.

Table 4.2. Criteria for determining Magnitude and Extent of Impact

Magnitude	Criteria
High	Loss of about 50% or more of the site area. Other effects (e.g. disturbance or damage arising from pollution) including indirect impacts having an adverse impact equivalent in nature conservation terms to a loss of >50% of the site area.
Medium	Loss affecting 20-49% of the site area. Other effects (e.g. disturbance or damage arising from pollution) including indirect impacts having an adverse impact equivalent in nature conservation terms to a loss of 20-49% of the site area.
Low	Loss affecting 4-19% of the site area. Other effects (e.g. disturbance or damage arising from pollution) including indirect impacts having an adverse impact equivalent in nature conservation terms to a loss of 4-19% of the site area.
Minimal	Loss affecting up to 4% of the site area. Other effects (e.g. disturbance or damage arising from pollution) including indirect impacts having an adverse impact equivalent in nature conservation terms to a loss of 4% of the site area.
Negligible	No anticipated effects resulting from the implementation of the proposals.
Potential Net Gain	Mitigation will seek to increase the extent of existing habitats or replace lost habitats with larger areas of suitable habitats. Such areas will be established and, where significant species are to be displaced, in a state ready for colonisation prior to any proposed habitat disturbance.

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Significance of Impact

Table 4.3. illustrates how significance has been assigned to the impact, based on a combination of the value of the feature being assessed. This has been expressed on a five-point scale ranging from Severe to Negligible as shown below.

Table 4.3. Criteria for determining Significance of Impact

Impact Magnitude and extent	Ecological Significance						
	Inter-national	UK/ National	Regional	County	District	Local	Not important
High	Severe	Major	Major	Major	Moderate	Minor	Minor
Medium	Major	Major	Moderate	Moderate	Moderate	Minor	Negligible
Low	Moderate	Moderate	Minor	Minor	Minor	Negligible	Negligible
Minimal	Minor	Minor	Negligible	Negligible	Negligible	Negligible	Negligible
No Impact	Negligible	Negligible	No impact	No impact	No impact	No impact	No impact
Potential net gain	Potential net gain	Potential net gain	Potential net gain	Potential net gain	Potential net gain	Potential net gain	Potential net gain

4.2. Impact Assessment of protected sites, significant habitats and significant species

4.2.1. Protected and other Designated Sites

No statutory or non-statutory protected sites (including nature reserves or other sites of nature conservation interest) are located within the survey site. Potential impact of the proposed development on such sites in the area are as follows.

European Protected Sites

There no European Protected Sites including Special Areas of Conservation (SAC) and Special Protection Areas (SPA) located in the area and none will be adversely impacted by the proposed development:

Impact during the construction phase:

Residual Impact:

NEGLIGIBLE (International ecological value, No Impact)

NEGLIGIBLE (International ecological value, No Impact)

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Nationally Protected Sites

There are no Sites of Special Scientific Interest (SSSI) located within 2km of the survey site and none will be impacted in any way by the development of the appraisal site.

Impact during the construction phase:

NEGLECTIBLE (UK/National ecological value, No Impact)

Residual Impact:

NEGLECTIBLE (UK/National ecological value, No Impact)

Designated sites of regional and county wildlife significance, Local Nature Reserves, etc

4.2.2. Sites of Importance for Nature Conservation (County Wildlife Sites)

The SEWBRc search shows two Sites of Importance for Nature Conservation (SINCs) located close to the appraisal site that have been adopted in the Neath Port Talbot Local Plan 2011-2026. One is located immediately adjacent to the south-western boundary of Area A and the other on the eastern side of the Afon Tawe, the closest point of which is 40m to the south-east of Area A. Neither of these sites will be impacted by the proposed development.

Impact during the construction phase:

NO IMPACT (County ecological value, No Impact)

Residual Impact:

NO IMPACT (County ecological value, No Impact)

There are no other SINCs located within at least 2km of the appraisal site.

4.2.3. Designated Ancient Semi-natural Woodland

Twenty four designated Areas of Ancient Semi-natural Woodland, three areas of Restored Ancient Woodland, three areas of Plantation on an Ancient Woodland Site and four Ancient Woodland Sites of Unknown Category are located within the 2km SEWBRc area of search. None of these areas will be affected by the proposed development.

Impact during the construction phase:

NO IMPACT (County ecological value, No Impact)

Residual Impact:

NO IMPACT (County ecological value, No Impact)

4.2.4. NRW Priority Habitat Areas

Three NRW Priority Ancient Woodland Site Areas and two NRW Heathland and Grassland Priority Areas are located within the 2km SEWBRc area of search. None of these areas will be affected by the proposed development.

Impact during the construction phase:

NO IMPACT (County ecological value, No Impact)

Residual Impact:

NO IMPACT (County ecological value, No Impact)

4.2.5. Other designated sites including Regionally Important Geological Sites (RIGS)

No such sites are located within the 2km SEWBRc area of search and none will be affected by the proposed development.

Impact during the construction phase:

NO IMPACT (Regional ecological value, No Impact)

Residual Impact:

NO IMPACT (Regional ecological value, No Impact)

No other designated sites will be adversely impacted by the proposed development of the appraisal site.

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No habitats of European significance listed at Annex I of the *European Habitats Directive* are present within the appraisal site or its vicinity.

Impact during the construction phase:

NEGLECTIBLE (International ecological value, No Impact)

Residual Impact: **NEGLECTIBLE** (International ecological value, No Impact)

Section 7 Habitats of Principal Importance and UK BAP Priority Habitats

No section 7 habitats present within the appraisal site although woodland is located adjacent to Area A and the Afon Tawe is only some 40m to the south-east. However, neither of these habitats or any other section 7 habitats will be impacted by the proposed development.

Impact during the construction phase:

NEGLECTIBLE (International ecological value, No Impact)

Residual Impact: **NEGLECTIBLE** (International ecological value, No Impact)

Local Biodiversity Action Plan Habitats

No additional habitats included in the Neath Port Talbot LBAP are located within, or in the immediate vicinity of the survey site.

Impact during the construction phase:

NO IMPACT (County ecological value, No Impact)

Residual Impact: **NO IMPACT** (County ecological value, No Impact)

Hedgerows, including *Important Hedgerows*

No hedgerows or *Important Hedgerows* as defined in the Hedgerow Regulations 1997 are located within or in the immediate vicinity of the survey site or will be affected by the proposed development.

Impact during the construction phase:

NO IMPACT (County ecological value, No Impact)

Residual Impact: **NO IMPACT** (County ecological value, No Impact)

Other habitats within the appraisal siteSparse vegetation on slag/shale in Area A

The vegetation established on slag/shale in Area A, whilst having a relatively diverse species composition is very sparse and of minimal ecological significance

Impact during the construction phase:

MINOR ADVERSE (Not important ecological value, High magnitude)

Residual Impact: **MINOR ADVERSE** (Not important ecological value, High magnitude)

Amenity grassland in Area B

The regularly mown amenity grassland that occupies most of Area B is of minimal ecological significance. As the development of the site progresses, areas of flower-rich amenity grassland will be established in Area A and are also likely to be established in Area B which will replace some of the relatively bland amenity grassland lost during the construction phase.

Impact during the construction phase:

MINOR ADVERSE (Not important ecological value, High magnitude)

Residual Impact: **NEGLECTIBLE** (Not important ecological value, Medium magnitude)

Land at Swansea Valley Business Park, Ystalyfera: Preliminary Ecological AppraisalEcological Connectivity

There are no features that currently contribute to local habitat connectivity through or around the appraisal site. The development of the site will not result in any loss of habitat connectivity but planned new plantings within Area A (and possibly in future when Area B is developed) will add some linear habitat which may contribute to potential connectivity in time.

Impact during the construction phase:

NO IMPACT (Local ecological value, No impact)

Residual Impact:

POSSIBLE MINOR GAIN (Local ecological value, potential net gain)

4.2.7. PlantsProtected Plant Species

Bluebell is protected against sale by its inclusion on schedule 8 of the Wildlife and Countryside Act 1981 (as amended). No plants were recorded during the survey and there is no habitat which would support the species within the appraisal site.

Impact during the construction phase:

NEGLECTIBLE (UK/National ecological value, No Impact)

Residual Impact:

NEGLECTIBLE (UK/National ecological value, No Impact)

Plants of International Significance

No plants included on Annex II of the Habitats Regulations occur within the appraisal site and none will be affected by the proposed development.

Impact during the construction phase:

NEGLECTIBLE (International ecological value, No Impact)

Residual Impact:

NEGLECTIBLE (International ecological value, No Impact)

No species included by the Countryside Council for Wales in category A of its list of Globally Threatened Plant Species were observed within the appraisal site during the survey, neither are any such species included in the SEWBRc data from within 2km of the site.

Impact during the construction phase:

NEGLECTIBLE (International ecological value, No Impact)

Residual Impact:

NEGLECTIBLE (International ecological value, No Impact)

Primrose is included by the Countryside Council for Wales in category B of its list of Globally Threatened Plant Species. Although this species was not recorded during the present survey, it is very likely to grow in the vicinity of the appraisal site but no plants will be lost as a result of the development of the site.

Impact during the construction phase:

NEGLECTIBLE (International ecological value, No Impact)

Residual Impact:

NEGLECTIBLE (International ecological value, No Impact)

Section 7 Plant Species of Principal Importance and UK Biodiversity Action Plan Priority Plant Species

No Plant Species of Principal Importance occur within the appraisal site and none will be affected by the proposed development.

Impact during the construction phase:

NEGLECTIBLE (UK/National ecological value, No Impact)

Residual Impact:

NEGLECTIBLE (UK/National ecological value, No Impact)

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Red Data Book 2 (UK) Plant Species

Table 2.5 lists the species included in RDB2 that have been recorded within the SEWBRcC area of search. Although habitat suitable to support Green-leaved Hawkweed (*Hieracium acuminatum*), Welsh Poppy, Northern Yellow-cress and Charlock is present within the appraisal site, none of these species were recorded during the present survey. It should be noted that the hawkweed recorded at TN7 in Area A, was not identifiable from the few rosette leaves present at the time of the survey but the fact that the leaves were untoothed indicates that it was not *H. acuminatum*). None of these species or any other RDB2 species will be impacted by the proposed development.

Impact during the construction phase:

NEGLIGIBLE (UK/National ecological value, No Impact)

Residual Impact:

NEGLIGIBLE (UK/National ecological value, No Impact)

Locally Important Species in the Neath Port Talbot and SEWBRcC areas

Table 2.7 lists locally important plant species that have been recorded within the SEWBRcC area of search. Although twenty plant species are recorded, only habitat that could potentially support Small Cudweed, Hawkweed Oxtongue, Knotted Pearlwort and Welsh Poppy is present within the appraisal site. None of these species was recorded during the present survey and none of them, or any other locally important species, will be impacted by the proposed development.

Impact during the construction phase:

NO IMPACT (Regional/County ecological value, No Impact)

Residual Impact:

NO IMPACT (Regional/County ecological value, No Impact)

Plant Species of Local Significance

Fairy Flax and False Fox-sedge were recorded during the present survey, the former in Area A and the latter at the edge of Area B. Both may be considered to be of local significance because of their scarcity in this part of the County Borough. It is proposed that both species will be temporarily removed during the construction phase but will be reintroduced during the landscaping of the site.

Impact during the construction phase:

MINOR ADVERSE (Local ecological value, High magnitude)

Residual Impact:

NEGLIGIBLE (Local ecological value, Minimal magnitude)

4.2.8. European Protected Fauna

Bats

Bats and their places of rest/shelter (ie roosts) are fully protected and a licence to disturb a European Protected Species is required to permit any disturbance to a roost whether in a building, a tree or elsewhere.

No roost sites will be disturbed or otherwise affected by the proposed development. The bat foraging potential of the appraisal site is considered to be minimal. There are no features within the appraisal site that bats would use as flightlines.

Impact during the construction phase:

MINOR ADVERSE (International ecological value, Minimal magnitude)

Residual Impact provided outside lighting is designed to minimise disturbance to local bat activity: **MINOR ADVERSE** (International ecological value, Minimal magnitude)

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Otter

It is unlikely that Otters would be attracted to the site due to the absence of any habitat or potential food source that might attract them, as well as the frequent disturbance by human and dog activity to which the site is subject. It is highly unlikely that Otters may visit the appraisal site but this cannot be ruled out.

Impact during the construction phase:

MINOR ADVERSE (International ecological value, Minimal magnitude)

Residual Impact:

MINOR ADVERSE (International ecological value, Minimal magnitude)

Dormouse

Although woodland in the vicinity is potentially capable of supporting Dormice, there is no suitable habitat located within the appraisal site and no signs of their presence were seen during the survey. Dormice will not be impacted by the development.

Impact during the construction phase:

NEGLIGIBLE (International ecological value, No impact)

Residual impact:

NEGLIGIBLE (International ecological value, No impact)

Great Crested Newt

No breeding ponds or suitable terrestrial habitat are located within the appraisal site although suitable habitat is located on the land across the A4067 and Afon Tawe, south of Area A, both of these features representing considerable barriers to movement of newts. Great Crested Newt will not be impacted by the development of the appraisal site.

Impact during the construction phase:

NEGLIGIBLE (International ecological value, No impact)

Residual impact:

NEGLIGIBLE (International ecological value, No impact)

Other European Protected Species

No habitat suitable to support other European Protected Species is located within the survey site, neither is it anticipated that any such species will visit the site.

Impact during the construction phase:

NEGLIGIBLE (International ecological value, No impact)

Residual impact:

NEGLIGIBLE (International ecological value, No impact)

4.2.9. Nationally Protected Faunal Species

Badger

Although there is habitat which offers suitable cover in the vicinity and the open grassland of Area B might offer a limited foraging resource, it is unlikely that Badgers would be attracted to the site due its frequent disturbance by human and dog activity. The development will not have any significant impact on the local Badger population. However, if any animals or their signs were to be found during site operations, advice should be sought from the site ecologist.

Impact during the construction phase:

NEGLIGIBLE (UK/National ecological value, No impact)

Residual impact:

NEGLIGIBLE (UK/National ecological value, No impact)

Attention drawn to the best practice protocol designed to minimise impact to Badgers during development works, which is reproduced at appendix 6.

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Water Vole

There is no habitat within, or in the vicinity of the site suitable to support the species.

Impact during the construction phase:

NEGLIGIBLE (UK/National ecological value, No impact)

Residual impact:

NEGLIGIBLE (UK/National ecological value, No impact)

Birds

All nests occupied or being built by breeding birds are protected against disturbance by the Wildlife and Countryside Act 1981. The nesting season is generally taken to be March to August inclusive but it should be borne in mind that some species nest outside this period. Whenever possible, site clearance should be undertaken between September and February inclusive and preferably mid-September to the end of October to avoid disturbance to hibernating animals such as bats, reptiles and amphibians. If it is necessary to disturb or remove any potential bird nesting habitat during the nesting season, an experienced ornithologist must assess the site immediately prior to the commencement of clearance operations in order to confirm that no active nests will be disturbed. If any active nests are found, work must cease in that area until the ornithologist certifies that no active nests are present.

The proposed development will not impact upon any nest sites or result in the removal of any potential nesting habitat. A few species (eg Jackdaw, Pied Wagtail) may use the site for foraging but are not dependent upon it.

There will be no significant impact on local bird populations as a result of the development.

Impact on local bird populations during the construction phase:

MINOR ADVERSE to NEGLIGIBLE

(UK/National to local ecological value, Minimal magnitude)

Residual impact on local bird populations with no landscape enhancements:

MINOR ADVERSE to NEGLIGIBLE

(UK/National to local ecological value, Minimal magnitude)

Anticipated Residual Impact following the establishment of landscaping enhancements and the provision of artificial nesting features in the new buildings (see appendix 8):

POTENTIAL NET GAIN

(UK/National to local ecological value, Potential Net Gain)

Reptiles

The habitats within the appraisal site and its immediate vicinity are unsuitable to support reptiles and no reptiles or their signs were seen during the present survey. It is considered that reptiles are unlikely to visit or occur within the site. However, site clearance work should be accompanied by a detailed finger-tip search of any edge habitat or other habitat which might have potential to conceal animals (eg the rubble pile at TN7).

Potential habitat enhancements are outlined at paragraphs 5.7 and 5.12.

Impact during the construction phase:

MINOR ADVERSE (UK/National ecological value, Minimal magnitude)

Residual impact without habitat enhancement:

MINOR ADVERSE (UK/National ecological value, Minimal magnitude)

Anticipated Impact on completion of the development assuming habitat enhancements are provided: **NEGLIGIBLE to POTENTIAL NET GAIN**

(UK/National ecological value, No impact to potential net gain)

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Amphibians

No amphibians or their signs were seen during the present survey and there is no amphibian breeding habitat located within the appraisal site. However, small numbers of terrestrial-phase amphibians, principally Common Frog, may occur in damp grass and may take refuge in edge habitats, but the habitat is suboptimal. However, site clearance work should be accompanied by a detailed finger-tip search of any edge habitat or other habitat which might have potential to conceal animals (eg the rubble pile at TN7).

Potential terrestrial habitat enhancements are outlined at paragraphs 5.7 and 5.12.

Impact during the construction phase:

MINOR ADVERSE (UK/National ecological value, Minimal magnitude)

Residual impact without habitat enhancement:

MINOR ADVERSE (UK/National ecological value, Minimal magnitude)

Anticipated Impact on completion of the development assuming habitat enhancements are provided: **NEGLIGIBLE to POTENTIAL NET GAIN**

(UK/National ecological value, No impact to potential net gain)

Protected Invertebrates

There is no habitat suitable for Marsh Fritillary butterfly or other protected species located within the appraisal site

Impact during the construction phase:

NEGLIGIBLE (UK/National ecological value, No impact)

Residual impact:

NEGLIGIBLE (UK/National ecological value, No impact)

4.2.10. Section 7 Faunal Species of Principal Importance

Hedgehog

Hedgehogs seek cover in dense vegetation and under banks, etc and, as these features are absent from the appraisal site, animals are unlikely to visit but, if they do visit, are unlikely to linger. Site clearance work should be accompanied by a detailed finger-tip search of any edge habitat or other habitat which might have potential to conceal animals.

Anticipated Impact during the construction phase:

MINOR ADVERSE (UK/National ecological value, Minimal magnitude)

Anticipated Impact after the completion of works assuming habitat enhancements as recommended by the site ecologist at paragraph 5.10, 5.12 and 5.13 are implemented:

NEGLIGIBLE to POTENTIAL NET GAIN

(UK/National ecological value, No impact to potential net gain)

Polecat

The widely-ranging activity of this species would indicate that the loss of a very small area of its range will be of no significance to its well-being.

Impact during the construction phase:

NEGLIGIBLE (UK/National ecological value, No impact)

Residual impact:

NEGLIGIBLE (UK/National ecological value, No impact)

Section 7 and other significant invertebrates

The limited range of habitats within the appraisal site severely limits the range of species recorded in the area that it is able to support or attract. The development is unlikely to be of significance to local populations of any section 7 or other significant invertebrates.

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Impact during the construction phase:
MINOR ADVERSE (UK/National ecological value, Minimal magnitude)
Residual impact: **MINOR ADVERSE** (UK/National ecological value, Minimal magnitude)
Anticipated Impact on completion of planned landscape enhancements within the site:
NEGLIGIBLE to POTENTIAL NET GAIN
(UK/National ecological value, No impact to potential net gain)

Stoat and Weasel
Stoat and Weasel are designated as Priority Species by Natural Resources Wales. These species are wide ranging and their presence in small numbers must be assumed but they are adaptable and the loss of habitat resulting from the development is unlikely to be of significance to their well being.
Impact during the construction phase:
MINOR ADVERSE (UK/National ecological value, Minimal magnitude)
Residual impact:
MINOR ADVERSE (UK/National ecological value, Minimal magnitude)

4.2.11. Other Nationally Significant Fauna
No other nationally protected or other significant faunal species or the habitats upon which they depend are likely to be affected by the proposed development.
Impact during the construction phase:
NEGLIGIBLE (UK/National ecological value, No impact)
Residual impact: **NEGLIGIBLE** (UK/National ecological value, No impact)

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5. ECOLOGICAL RECOMMENDATIONS and OPPORTUNITIES**5.1 Further Survey**

It is not considered necessary to carry out any further ecological surveys.

5.2 Retention of significant vegetation

With the exception of the plants at paragraph 5.3, no special retention of vegetation is considered necessary for ecological reasons.

5.3 Conservation of False Fox-sedge and Fairy Flax

False Fox-sedge and Fairy Flax are plants that may be considered to be of local interest. As advised by the site ecologist, the developers should seek to collect seed or temporarily remove these plants in order to maintain them *ex situ* for the duration of construction works prior to their re-introduction to the site or other suitable land in the vicinity during the landscaping operation.

5.4 Clearance of vegetation

Whenever possible, site clearance should be undertaken outside the bird nesting season, ie, between September and February inclusive and preferably in mid-September to the end of October to avoid disturbance to hibernating animals such as bats, reptiles, amphibians and Hedgehog.

No potential bat roost sites will be disturbed or otherwise affected by the proposed development but all site operations should avoid unnecessary disturbance to bat habitat and best practice methods designed to minimise impact on bats should be employed. These are outlined at appendix 5. If any bats or roosts were to be found during site clearance operations, all work must stop immediately and advice sought from the site ecologist.

In order to minimize potential harm to reptiles, terrestrial phase amphibians, Hedgehogs and other fauna during site clearance work or when levelling ground irregularities, a detailed visual “finger-tip” search of the habitat that might have potential to conceal these animals, should be undertaken by a suitably qualified member of the site development team. This search must be undertaken immediately prior to, and during the removal of the habitat. Initial disturbance to the vegetation and soil must be carried out with hand-tools only and only after the search confirms that the area is clear of animals will the use of mechanical plant be permitted.

5.5 Containment of polluted run-off within the site

Polluted or silt-laden run-off from the construction works or from the site once construction is completed, must be prevented from reaching the Afon Tawe. Run-off from the site must comply at all times with NRW consent standards.

5.6 Bats

Site personnel should be mindful of the protection afforded to bats and the potential consequences of killing animals or disturbing their roosts during site work which could result in prosecution under the protection legislation.

No potential bat roost sites will be disturbed or otherwise affected by the proposed development but site operations should avoid unnecessary disturbance to bat habitat and best practice methods designed to minimise impact to bats should be employed. See appendix 5. Outside lighting must be designed so as not to illuminate any potential bat habitat or potential roost sites. The placing of bat roost features in the fabric of the new buildings would provide an enhancement to the local bat habitat and would result in a net

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ecological gain. This, associated with appropriate landscape plantings, will enhance the habitat for bats. Examples of possible bat roost features are included at appendix 9.

5.7 Reptiles and Amphibians

In order to minimize potential harm to reptiles, amphibians or other fauna, during site clearance work or levelling ground-surface irregularities, a visual “finger-tip” search of the habitat should be undertaken and initial disturbance be carried out with hand-tools prior to the use of mechanical plant. Site personnel should be mindful of the likely presence of reptiles and amphibians and be instructed to avoid disturbing, damaging or killing them. Emphasis should be given to the protection afforded to reptiles and the potential consequences of killing animals during site work which would be construed as ‘intentional killing’ as defined in the protection legislation.

In order to provide potential refuges for reptiles and terrestrial-phase amphibians, habitat piles constructed from branches, twigs and other vegetation should, if space permits, be sited in convenient undisturbed areas as advised by the site ecologist. See paragraph 5.12.

5.8 Badger

Although no signs of Badgers were observed during the present survey, all site personnel must be made aware that animals could occasionally visit the site. It is considered unlikely that Badgers will visit but if any holes suspected of being a sett are found during site operations, all work must immediately stop within 30m of the suspected sett and advice sought from the site ecologist.

All excavations left overnight must be provided with a means of escape to prevent any animals becoming trapped, such as a fixed, sloping plank or a sloping side to part of the excavation.

Attention is further drawn to the best practice protocol designed to minimise impact to Badgers during development works, which is reproduced at appendix 6.

5.9 Birds

All nests occupied or being built by breeding birds are protected against disturbance by the Wildlife and Countryside Act 1981. The nesting season is generally taken to be March to August inclusive but it should be borne in mind that some species nest outside this period. Whenever possible, site clearance should be undertaken between September and February inclusive and preferably mid-September to the end of October to avoid disturbance to hibernating animals such as bats, Hedgehogs, reptiles and amphibians. If it is necessary to disturb or remove any potential bird nesting habitat during the nesting season, an experienced ornithologist must assess the site immediately prior to the commencement of clearance operations in order to confirm that no active nests will be disturbed. If any active nests are found, work must cease in that area until the ornithologist certifies that no active nests are present.

Mitigation of habitat loss may be achieved by the provision of nest boxes and other suitable features in the fabric of the new buildings as they are being constructed. This, associated with appropriate landscape plantings, will reduce the impact on birds. Examples of possible bird nesting features are included at appendix 8.

5.10 Hedgehog

When undertaking site clearance work or vegetation removal, site personnel should be mindful of the possibility of the presence of Hedgehogs on the site and ensure that any animals found come to no harm. In order to minimize potential harm to Hedgehogs, the

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same advice should be followed as recommended for reptiles and amphibians during site clearance work or levelling ground-surface irregularities. A visual “finger-tip” search of the habitat should be undertaken and initial disturbance be carried out with hand-tools prior to the use of mechanical plant.

In order to provide potential refuges for Hedgehogs, habitat piles constructed from branches, twigs and other vegetation should be sited in convenient undisturbed areas as advised by the site ecologist. See paragraph 5.12.

Movement of individual animals into and out from the site should be facilitated by ensuring that the planned new mesh boundary fencing allows space below sections or is provided with 130mm x 130mm holes at ground level about every 10m. Similarly, new boundary walls should be constructed with 130mm diameter pipes through their bases about every 10m to allow Hedgehog passage.

5.11 Invasive Non-Native Species (INNS)

No Invasive Non-Native Species were recorded within the appraisal site or its immediate vicinity during the survey but if any such plants such as Japanese Knotweed or Himalayan Balsam become established or are encountered during construction works, they should be removed for off-site disposal.

Construction works must ensure that Japanese Knotweed stands are not disturbed in a way that would cause the spread or export of propagules from the site and site operations must comply with approved containment practices. Japanese Knotweed must be treated using approved methods prior to the commencement of any work which might cause its disturbance or spread in compliance with the *Knotweed Code of Practice* (Environment Agency, 2013).

Any Himalayan Balsam plants that might become established should be removed before they set seed as advised on the Himalayan balsam wales website.

<http://himalayanbalsamwales.co.uk/himalayan-balsam/control/>

5.12 Construction of Habitat Piles & Hibernacula

Arisings from vegetation removal should, where possible, be utilized to form habitat piles located in an undisturbed area where they will receive sun for at least some part of the day. Woody material such as branches and twigs should be used to provide the foundations and core of the pile with other vegetation placed on top. The whole should be covered with turves to consolidate the pile. Netting should not be used as animals could become caught and trapped. Habitat piles are particularly attractive to reptiles and amphibians seeking refuge and hibernation sites but also provide cover for Hedgehogs and many other species.

In addition, stone and rubble should be utilized to provide winter hibernacula.

Details can be found at section 9, page 45, of the *Reptile Habitat Management Handbook* (Edgar *et al*, 2010) downloadable from

<http://www.arc-trust.org/Resources/Arc%20Trust/Documents/reptile-habitat-management-handbook-ffull.pdf>

5.13 New plantings

Landscape plantings should seek to provide habitat connectivity linking habitats surrounding the site. It is planned to plant a 3m wide hedgerow along the frontage to the A4067 which will connect with the woodland located to the south-west of Area A. Further linear plantings will be made along the south-western and north-western site boundary and internal shrub plantings and grassland are planned inside the north-eastern part of the site dividing it from the nearby Office Row cottages.

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No plans are yet available for Area B.

All new plantings should be of native species appropriate to preserve the character of the local landscape and to be of greatest benefit to wildlife. In order to ensure that planting stock is compatible with the local gene pool of the area, it should be of local provenance as outlined in Forest Practice Note No. 8, *Using Local Seed Sources for Planting Native Trees and Shrubs* (Forestry Commission, 1999). Local sources of suitable planting stock and advice include Celtic Wildflowers <https://celticwildflowers.co.uk/>

In order to provide faunal feeding opportunities, plantings should include berry and seed-bearing trees and shrubs such as Hawthorn, Hazel, Crab Apple, Alder Buckthorn, Guelder Rose, Rowan and Elder. Native species of trees and shrubs (including non berry-bearing species) generally have higher invertebrate productivity than alien species, thus resulting in a richer environment for birds and other fauna.

It is recommended that it is best to establish grassland areas by sowing with a bland native-species grassland mix, into which, once the sward is established, appropriate locally native wild flower species are sown or introduced as plug plants. Suitable species should be selected in consultation with the site ecologist and should be limited to only species that grow naturally in the vicinity and must be sourced from local plants in order to maintain the local gene pool.

Existing vegetation and new plantings should not be over-managed and species such as ivy, bramble, willow and gorse should be controlled but allowed to grow, as these also provide good food sources and cover for nesting birds and other fauna.

A suitable corner that will be least disturbed should be identified for the location of a habitat pile and, if space permits, a reptile hibernaculum: see paragraph 5.12.

5.14 **Timing of Works**

in order to comply with current legislation and best practice, all works should be carried out bearing due regard to the requirements of all flora and fauna, during the appropriate times of year (see appendix 7).

A suitable timetable and scheme of works should be drawn-up to comply with all ecological constraints and requirements which will form an aspect of the site Environmental Management System.

5.15 **Implementation and Supervision**

Careful planning and supervision of site personnel should seek to ensure that disturbance to existing habitats and species is kept to an absolute minimum.

Where required, there should be input from the site ecologist at all stages of the project. Where appropriate, the above recommendations should be translated into clauses in works contracts and be specified in method statements.

The ecologist should attend site at the commencement of works to familiarize site personnel with ecological constraints. Site personnel should be made familiar with the ecological requirements of the site at induction courses and tool-box talks.

If necessary, the site ecologist should monitor progress as construction work proceeds in order to ensure that ecological requirements are being satisfactorily implemented.

5.16 **Future Site Maintenance**

Following the completion of the construction phase, future maintenance of the site should bear due regard to the well-being of all habitats, flora and fauna and only employ best-practice. All maintenance works must be undertaken at times appropriate to avoid

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unnecessary disturbance, for example, to avoid the bird nesting season and to minimize disturbance to hibernating animals.

Lopping of trees and cutting of vegetation should not be over-aggressive and it should be borne in mind that species such as Ivy, Gorse, willow and Bramble are very important habitats for many species.

The frequent cutting of grass verges without removing the arisings invariably results in their decline in ecological value due to soil enrichment causing a considerable reduction in species-diversity. Arisings from grass cutting should therefore always be removed.

On every occasion that work is undertaken, management practices and prescriptions should be conveyed to maintenance staff undertaking such routine maintenance on the ground.

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APPENDIX 1

INTERNATIONAL, NATIONAL AND LOCAL STATUTORY AND POLICY FRAMEWORK

updated from text compiled by David Clements

1.

Nature conservation in the UK is affected by a complex framework of legislation and policy at the international, national, regional and local levels. This section of the strategy summarises current legislation and policy insofar as it affects the study area, and gives a brief outline of the statutory obligations and responsibilities within which the strategy must function.
2.

The summary below deals only with legislation and statutory policy matters which are directly relevant to the study area. Other legislation and policy documents which have indirect relevance, or which could become relevant in the future, should be consulted where relevant.
- 3

International Obligations
- 3.1

There is increasing awareness and concern at the need to protect natural habitats and their biodiversity at both the global and the European scale. This has resulted in a number of important international conventions, directives and agreements in the period since about 1970, to which the UK has either become a signatory or has incorporated into national law. The most relevant of these are as follows:
- EC Council Directive on the Conservation of Wild Birds, 1979 (The ‘Birds Directive’)**
- 3.2

The Birds Directive (No. 79/409/EEC) applies to wild birds, their eggs, nests and habitats, and provides for the protection, management and control of all species of birds naturally occurring within member states. It requires the UK to take measures to ensure the preservation of sufficient diversity of habitats to maintain populations of all such birds at ecologically and scientifically supportable levels.
- 3.3

The habitats of certain rare and vulnerable birds (listed in Annex 1 of the Directive), and regular migratory species, are to be conserved by special measures including the identification, designation and protection of key areas of habitat. These designated areas are known as ‘Special Protection Areas’ or SPAs, and in the UK, are also required to be designated as SSSIs under domestic legislation.
- EC Council Directive on the Conservation of Natural Habitats of Wild Flora and Fauna, 1992 (The ‘Habitats Directive’) updated 2010.**
- 3.4

The Habitats Directive (No. 92/43/EEC) requires the UK to maintain and/or restore naturally occurring habitats, especially those which are deemed to be vulnerable and declining in Europe. It also requires the protection of many species of plants and animals which are similarly threatened and declining throughout their European range, therefore giving effect to both site and species protection objectives.
- 3.5

The Directive requires the UK to designate sites, on land and at sea, which will form part of a network of special sites within a broader, sensitively managed landscape. The designated sites, referred to as ‘Special Areas of Conservation’ (or SACs), together with the SPAs designated under the Birds Directive, form part of the EC ‘Natura 2000’ network of sites which are deemed to be of ‘Community Interest’, ie of significance in the pan-European context.
- 3.6

SACs may be selected for their importance as natural habitat types and/or as habitats for the rare and vulnerable species listed in Annexes I and II of the Directive. The UK Government was required to present a list of candidate SACs by June 1998, and has since gone through the process of refining and confirming the listed sites.
- 3.7

In the UK, the requirements of the Habitats Directive are implemented through the *Conservation (Natural Habitats etc) Regulations 1994*. All SACs are required to be notified as SSSIs under domestic legislation.
- Convention on Biological Diversity, 1992 (The ‘Rio Convention’)**
- 3.8

The Rio Convention on Biodiversity was one of several products arising from the *1st Earth Summit: a UN Conference on the Environment and Development* (UNCED) held in Rio de Janeiro in 1992.
- 3.9

The Rio Convention sets out an agreement between over 120 countries to investigate how the world's biodiversity - the entire range and variety of life on earth or any part of it - can best be conserved. It covers issues such as the sustainable use of environmental resources, the rehabilitation of degraded ecosystems and recovery of threatened species. Each of the participating nations is required to produce a Biodiversity Action Plan (BAP) setting out its own national targets and initiatives for meeting the objectives of the Convention.

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- 3.10 Other products from the Earth Summit included *Agenda 21* - a comprehensive programme of action needed throughout the world to achieve a more sustainable pattern of development into the next century and agreements on matters such as global climate change and the sustainable development of forestry. Within this context, local planning authorities in the UK are required to develop and adopt their own sustainable development strategies at the local level – ‘Local Agenda 21’ (LA21).
- 3.11 Local Agenda 21 is concerned primarily with wider actions to create and maintain the local quality of life and environment, providing an opportunity for communities to think through the priorities for their local area and to establish action plans to influence the direction of change. The development of nature conservation strategies and locally-applicable biodiversity action plans (LBAPs) form important elements of the LA21 process in so far as it affects the sustainable use of nature conservation and earth science resources.
- EC Directive on the Assessment of the Effects of Certain Public and Private Projects on the Environment, 1997 (The ‘EA Directive’)***
- 3.12 The first EC Directive on Environmental Assessment (No. 85/337/EEC) was published in 1985 and was implemented in the UK primarily through the *Town & Country Planning (Assessment of Environmental Effects) Regulations 1988* and its various amendments. This required the UK to implement a formal framework for assessing the impacts of certain types of development on the environment, particularly where these are of a large or potentially damaging nature, before a decision is taken on whether or not they should proceed. This includes an assessment of the impact of the development on nature conservation and ecology.
- 3.13 The Directive was revised in 1997 (No. 97/11/EC) in order to clarify certain ambiguities in the original directive, whilst extending the range of projects that are now to be subject to formal Environmental Assessment, and this has been transferred into UK legislation via the *Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 1999* which came into force on the 14 March 1999.
- The Berne Convention (Convention on the Conservation of European Wildlife and Natural Habitats)***
- 3.14 The Berne Convention is designed to protect important populations of listed species and their habitats. Appendix I floral species which are required to be strictly protected against picking, collecting, possession, sale, etc. Appendix II places particular emphasis on migratory species and their breeding and resting sites. Listed species are required to be strictly protected against a range of activities including deliberate killing, disturbance, taking of eggs, trading, etc. Appendix III protects populations of animals against exploitation and requires their management to keep them out of danger.
- The Bonn Convention on the Conservation of Migratory Species of Wild Animals***
- 3.15 Appendix 1 of the Bonn Convention lists species considered to be in danger of extinction which require strict protection from any threat. Appendix II lists species generally of conservation concern which will benefit from international co-operation. Signatories are encouraged to draw-up agreements to restore / maintain species’ conservation status by appropriate measures.
- 4 National Legislation and Policy Framework**
- 4.1 The UK now possesses a complex framework of domestic legislation and Government guidance concerned with nature conservation and the protection of both habitats and species. The legislative approach has generally stemmed in the past from the protection of individual sites and species, but has more recently broadened into concern for the wider environment and towards integrated policies for sustainability and the conservation of all species.
- 4.2 The key strands of national legislation and policy are outlined below:
- Wildlife and Countryside Act 1981 (amended by the Wildlife and Countryside (Amendment) Act 1985 and others)***
- 4.3 This Act, which has been greatly amended by subsequent legislation, remains the central pillar of statutory nature conservation in the UK. It provides the statutory basis for the legal protection of a wide range of specified plants and animals, and sets out the current principles for the designation,

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- administration and protection of National Nature Reserves (NNRs), Sites of Special Scientific Interest (SSSIs) and Local Nature Reserves (LNRs).
- 4.4 The provisions of the Wildlife & Countryside Act (or 'WCA') with respect to SSSIs have recently been revised and enhanced by the Countryside & Rights of Way Act 2000 (see below).
- The Conservation (Natural Habitats etc) Regulations 1994 (The 'Habitats Regulations')***
- 4.5 This Statutory Instrument formally transposes the requirements of the EC Habitats Directive into British Law.
- Biodiversity - The UK Action Plan; Command 2428, 1994 (The 'UK BAP')***
- 4.6 The Rio Convention (see above) recognised that action must be taken to halt the world-wide loss of animal and plant species, and their potential genetic resources. It was agreed that national plans would be drawn up by each of the participating nations.
- 4.7 The UK BAP sets out the following objectives:
- 'To conserve and where practical enhance:*
- i) the overall populations and natural ranges of native species and the quality and range of wildlife habitats and ecosystems;
 - ii) *internationally important and threatened species, habitats and ecosystems;*
 - iii) *species, habitats and natural and managed ecosystems that are characteristic of local areas;*
 - iv) *the biodiversity of natural and semi-natural habitats where this has been diminished over recent past decades.*
- To increase public awareness of, and involvement in, conserving biodiversity;*
- To contribute to the conservation of biodiversity on a European and global scale.'*
- 4.8 The UK Steering Group was subsequently set up to develop costed targets for key species and habitats, and to set out recommendations for achieving the objectives of the UK BAP. The findings and recommendations of this group are set out in *Biodiversity: The UK Steering Group Report* (UKSG), published in 1995.
- 4.9 The UK Steering Group, and its successor body the UK Biodiversity Group, have published costed action plans at the UK level for about 40 Priority Habitats and 400 Priority Species, together with shorter and less detailed statements for a further 100 or so Priority Species (UKSG 1995; UKBG 1998-99).
- The Countryside and Rights of Way Act, 2000 (the 'CROW Act'), the Natural Environment and Rural Communities Act 2006 (the 'NERC Act') and the Environment (Wales) Act 2016***
- 4.10 These Acts require all public bodies to have statutory regard to the purpose and objectives of the UK Biodiversity Action Plan and to encourage others likewise. The National Assembly for Wales, in association with CCW, published a list of habitats and species under section 74 of the CROW Act reviewed under section 40 of the NERC Act resulting in the section 42 list of *Species and Habitats of Principal Importance for Conservation of Biological Diversity*. In Wales, the Welsh Government enacted the Environment (Wales) Act in 2016 which replaces and reinforces the biodiversity aspects of the NERC Act which continues to apply in England. The list of *Species and Habitats of Principal Importance for Conservation of Biological Diversity* under section 7 of the Environment (Wales) Act replaces the NERC section 42 list in Wales. All public bodies are required to take steps, and to promote the taking of steps by others, to further the conservation of these listed habitats and species.
- 4.11 These Acts also reinforce the protection and administration of SSSIs, giving additional powers to the agencies and local authorities. Amongst the measures are:
- a duty on public bodies to secure positive management on land which they control or occupy;
 - rights to refuse consent for damaging activities not previously subject to regulation;
 - licence or rights-holders to be treated the same as owners/occupiers;
 - agency-flexible compulsory purchase powers;
 - restrictions on third party users;
 - amendments to permitted developments rules;
 - improved enforcement, etc.

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4.12 Welsh local planning authorities are required to regard habitats and species listed under section 7 Environment (Wales) Act as material considerations within the planning and development process when assessing applications for planning consent.

The Protection of Badgers Act 1992

4.13 This Act brings together a series of Acts which were specifically designed to protect Badgers from persecution and other disturbance. It generally protects individual animals as well as their places of shelter (setts) and is generally interpreted to mean that it an offence to carry out any hand works within 10m, and any mechanical works within 30m (40m if pile driving or other vibration is involved) of the closest sett entrance. Licensing is required from DEFRA or Natural Resources Wales for works within these exclusion zones and then only during the months of July to November inclusive. In general, licensing for main-sett closure is only granted on welfare grounds and not for commercial reasons.

5 Government Planning Guidance

5.1 Government guidance for planning authorities is set out in a series of planning guidance documents. These are intended to ensure consistency between local authorities in interpreting the law and in defining their responsibilities and powers regarding matters such as development control.

5.2 Wales has its own series of planning guidance documents. These take the form of a general policy statement document (*Planning Guidance (Wales): Planning Policy* 1999) which is supplemented by a series of *Technical Advice Notes* (TANs) which amplify the guidance with respect to key areas of detail. Many of the current documents make reference to nature conservation issues. The main strands are as follows:

Planning Guidance (Wales): Planning Policy (First Revision) 1999 ('PG(W):PP')

5.3 This sets out the broad principles for the operation of the planning system in Wales. The document contains general commitments to sustainable development, the protection of biodiversity and protection of the environment as a whole.

5.4 PG(W):PP indicates that local authorities should determine planning applications strictly in accordance with the policies contained in the current development plan, and should only do otherwise when there are significant material considerations which make this desirable. Development plans are required to have reasonably detailed policies with respect to nature conservation, and the document goes on to give guidance as to what these should cover.

5.5 Para 5.3.13 notes that *'both statutorily designated sites and other [ie locally] designated sites are important for the conservation of natural heritage, as are some non-designated areas and features which provide wildlife corridors'*. Development plans should *'ensure that relevant international, national and local conservation interests are properly provided for'* and that they should *'also be concerned with other land of conservation value, including wildlife sites in urban areas and the possible provision of new habitats'* (para 5.3.15).

5.6 The importance of protecting locally designated sites is acknowledged in the guidance, provided these are of 'substantive nature conservation value', have been assessed against formal criteria and are not unduly or unreasonably restrictive of development. Para 5.3.20 also states that the presence of a protected species is a material consideration when considering planning applications, and notes that applicants must conform with any statutory species protection provisions affecting the site concerned.

Planning Guidance (Wales): Technical Advice Note (Wales) 5: Nature Conservation and Planning 2009 ('TAN 5')

5.7 TAN 5 amplifies the broad provisions of PG(W):PP with respect to nature conservation and is the main source of current planning guidance for this subject in Wales. In summary, the guidance:

- sets out the Government's objectives for nature conservation and the framework for safeguarding our natural heritage under domestic and international law;
- describes the key role of local authorities and CCW;
- emphasises the importance of both designated sites and non-designated habitats for nature conservation;
- advises on the treatment of nature conservation issues in development plans;
- states development control criteria, particularly for SSSIs and sites with additional national and international designations;

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- sets out the implications and implementation of the EC Habitats and EC Birds Directives.
- 6 **Other Wildlife Designations**
- 6.1 The Countryside Council for Wales and several non-governmental bodies, such as the RSPB and researchers specialising in particular floral or faunal groups, have produced lists of species which have suffered serious population declines or contractions in range. These designations are outlined below.
- 6.2 **Countryside Council for Wales List of Globally Threatened Plants**
Category A lists 16 species which are all more or less endemic to Europe, occur in fewer than 50% of European countries and have shown serious declines leading to extinctions at national level. Category B lists a further 6 species, all showing serious declines leading to national extinctions, but present in more than 50% of European countries. Category C lists a further 16 species which have suffered similar declines but which are not endemic to Europe.
- 6.3 **RSPB Birds of Conservation Concern**
Birds which have suffered serious population or range declines over the last 25 years have been highlighted by the publication of *Birds of conservation concern* (RSPB, 1995). The *Red List* broadly includes those species which have suffered at least a 50% decline in the last 25 years, and the *Amber List* those species which have suffered at least a 25% decline in the same period.
- 6.4 **BTO Breeding Birds of concern in the Wider Countryside**
This list (Crick *et al*, 1997) provides a further listing of species showing evidence of decline: the degree of urgency of threat to these populations is indicated by High or Medium Alert status.
- 6.5 **Red Data Birds**
The criteria used for the selection of species for inclusion onto the list of Red Data birds are given in Batten *et al* (1990, pp.3-7). In summary, consideration is given to
1. international significance of the British population,
 2. scarcity as a British breeder,
 3. declining breeding numbers,
 4. restricted distribution in vulnerable sites or habitats,
 5. species of special concern.
- 6.6 **Candidate Red Data Birds**
The list of Candidate Red Data birds includes those species which Batten *et al* (1990) considered may meet the criteria for inclusion onto the Red Data list within the next 25 years (from 1990).
- 6.7 **Local Invertebrate Species**
Localised invertebrate species within Britain are defined as being recorded from 101 - 300 of the 10km squares in Britain since 1980. The definition covers both species which are patchily distributed throughout Britain and species that are confined to particular areas but generally distributed within these (Waring, 1993). Designations such as **notable a** and **notable b** are used to distinguish species of high and medium conservation concern.
- 6.7 **Plant species of Local Significance**
These are listed in the Glamorgan Rare Plant Register which places the county's rare and scarce plants into categories of international, national and county significance.

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APPENDIX 2

Target Notes

The locations of the following Target Notes recorded during the field survey are shown on figure 3.
The survey was undertaken by Richard Pryce on 20th May 2020 in sunny, cloudless weather with a light 7mph SSE wind, 18°C.
On site 11:30 - 13:15 hrs
plus 13:15 hrs - 14:00hrs on land on south-east side of Afon Tawe where Grass Snake recorded.

Target notes have been recorded using Biorecs biological recording software which facilitates these records being incorporated into databases administered by specialist bodies including nationally to the Biological Records Centre at the Centre for Ecology and Hydrology, Wallingford, the Distributional Database maintained by the Botanical Society of Britain & Ireland (BSBI) and to local databases such as that at the South-East Wales Biodiversity Records Centre and the database maintained by the County Plant Recorder of the BSBI. Such records advance the knowledge and understanding of the distribution and frequency of plants, animals and habitats and enable a more informed approach to be made to future management and conservation of the natural and semi-natural environment and potentially assist with the assessment of the impact that future development and land-use changes may have on habitats and wildlife. These records will be submitted to the national and local databases in due course.

Key to Species Status mnemonics

Plants and some faunal groups

- a abundant
- b locally abundant
- d dominant
- f frequent
- g locally frequent
- i introduced
- K seedling or immature plant or animal
- L faunal sign (eg otter spraint)
- m specimen to museum
- o occasional
- p present (no frequency noted)
- r rare
- s self sown
- t garden throw-out
- \$ cf (determination uncertain at this season or specialist determination required)

Fauna

The actual number of individuals is noted for birds and some other faunal groups.
For Odonata A=1 individual, B=2-5, C=6-20, D=21-100, E=100-500, F=500+

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AREA B Swansea Valley Business Park Ystalyfera TN2001

East half of extensive amenity grassland 'verge' area between Asda access road and workshops building, originally seeded but now also colonised with native-species sward in part; locally abundant moss understorey. Several Bombus pratorum bumblebees present.

Grid ref. : 22/7648- 0828- Record date : 20/05/2020

Habitat : B4 - Improved/reseeded grassland

Observer : Richard D. Pryce

Vice county : Glamorgan Altitude : 60

Group : 2 - Plants : RP6

Code	Scientific Name	Vernacular Name	Species Status
121.0	<i>Anthoxanthum odoratum</i>	Sweet Vernal-grass	b
169.0	<i>Arrhenatherum elatius</i>	False Oat-grass	r
467.0	<i>Cerastium fontanum</i>	Common Mouse-ear	o
597.0	<i>Cynosurus cristatus</i>	Crested Dog's-tail	r
607.0	<i>Dactylis glomerata</i>	Cock's-foot	o
983.0	<i>Holcus lanatus</i>	Yorkshire-fog	b
1020.0	<i>Hypochaeris radicata</i>	Cat's-ear	r
1191.0	<i>Lotus corniculatus</i>	Common Bird's-foot-trefoil	o
1487.0	<i>Plantago lanceolata</i>	Ribwort Plantain	g
1506.0	<i>Poa pratensis sens. lat.</i>	Smooth Meadow-grass	g
1594.0	<i>Potentilla reptans</i>	Creeping Cinquefoil	o
1642.0	<i>Ranunculus acris</i>	Meadow Buttercup	o
2034.0	<i>Taraxacum</i> agg.	Dandelion *	r
2091.0	<i>Trifolium pratense</i>	Red Clover	g
2168.0	<i>Veronica chamaedrys</i>	Germander Speedwell	r
6932.0	<i>Lolium perenne subsp.perenne</i>		r

Group : 30 - Aculeata D/S

Code	Scientific Name	Vernacular Name	Species Status
469	<i>Bombus pratorum</i>	Early Bumble Bee	6

AREA B Swansea Valley Business Park Ystalyfera TN2002

Area in vicinity of relatively recently installed manhole inspection chambers. Often very sparse sward over gravelly, clinker, slag and coal substrate (up to c.50% bare ground). One Pedunculate Oak seedling recorded.

Grid ref. : 22/7649- 0826- Record date : 20/05/2020

Habitat : I22 - Spoil heap

Observer : Richard D. Pryce

Vice county : Glamorgan Altitude : 60

Group : 2 - Plants : RP6

Code	Scientific Name	Vernacular Name	Species Status
121.0	<i>Anthoxanthum odoratum</i>	Sweet Vernal-grass	o
231.0	<i>Bellis perennis</i>	Daisy	o
572.0	<i>Crepis capillaris</i>	Smooth Hawk's-beard	r
607.0	<i>Dactylis glomerata</i>	Cock's-foot	o
824.0	<i>Festuca rubra</i> agg.	Red Fescue	g
825.0	<i>Festuca rubra</i>	Red Fescue	o
976.0	<i>Pilosella officinarum</i>	Mouse-ear-hawkweed	o
976.4	<i>Pilosella officinarum subsp.officinarum</i>		o
1016.0	<i>Hypericum tetrapterum</i>	Square-stalked St John's-wort	r
1020.0	<i>Hypochaeris radicata</i>	Cat's-ear	r
1183.0	<i>Lolium perenne</i>	Perennial Rye-grass	g
1191.0	<i>Lotus corniculatus</i>	Common Bird's-foot-trefoil	o
1487.0	<i>Plantago lanceolata</i>	Ribwort Plantain	o
1584.0	<i>Potentilla anserina</i>	Silverweed	r
1640.0	<i>Quercus robur</i>	Pedunculate Oak	K
1753.0	<i>Rumex sanguineus</i>	Wood Dock	r
1899.0	<i>Senecio jacobaea</i>	Common Ragwort	o
2034.0	<i>Taraxacum</i> agg.	Dandelion *	o
2081.0	<i>Trifolium dubium</i>	Lesser Trefoil	b
2091.0	<i>Trifolium pratense</i>	Red Clover	g
5459.0	<i>Trifolium hybridum</i>	Alsike Clover	r

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Land at Swansea Valley Business Park, Ystalyfera: Preliminary Ecological Appraisal

AREA B Swansea Valley Business Park Ystalyfera TN2003

West half of extensive amenity grassland 'verge' area between Asda access road and workshops building, continuation of TN2001. Originally seeded but now also colonised with native-species sward in part; locally abundant moss understorey. Several *Bombus pratorum* bumblebees present, two Common Blue butterflies and female Orange-tip. No birds seen on site but general bird list refers to singing birds from nearby woodland together with Swallow flying over near Office Row cottages and four Herring Gulls flying over towards north.

Grid ref. : **22/7646- 0829-** Record date : **20/05/2020**

Habitat : **B4 - Improved/reseeded grassland**

Observer : **Richard D. Pryce**

Vice county : Glamorgan Altitude : 60

Group : 2 - Plants : RP6

Code	Scientific Name	Vernacular Name	Species Status
121.0	<i>Anthoxanthum odoratum</i>	Sweet Vernal-grass	b
169.0	<i>Arrhenatherum elatius</i>	False Oat-grass	r
231.0	<i>Bellis perennis</i>	Daisy	r
404.0	<i>Carex pendula</i>	Pendulous Sedge	r
467.0	<i>Cerastium fontanum</i>	Common Mouse-ear	o
607.0	<i>Dactylis glomerata</i>	Cock's-foot	o
825.0	<i>Festuca rubra</i>	Red Fescue	b
1070.0	<i>Juncus inflexus</i>	Hard Rush	o
1183.0	<i>Lolium perenne</i>	Perennial Rye-grass	r
1487.0	<i>Plantago lanceolata</i>	Ribwort Plantain	o
1495.0	<i>Poa annua</i>	Annual Meadow-grass	r
1594.0	<i>Potentilla reptans</i>	Creeping Cinquefoil	o
1642.0	<i>Ranunculus acris</i>	Meadow Buttercup	o
1660.0	<i>Ranunculus repens</i>	Creeping Buttercup	r
1748.0	<i>Rumex obtusifolius</i>	Broad-leaved Dock	r
1753.0	<i>Rumex sanguineus</i>	Wood Dock	r
1899.0	<i>Senecio jacobaea</i>	Common Ragwort	r
1953.0	<i>Sonchus asper</i>	Prickly Sow-thistle	r
2091.0	<i>Trifolium pratense</i>	Red Clover	b
2516.0	<i>Vicia sativa</i>	Common Vetch	r
2649.0	<i>Vicia sativa subsp.segetalis</i>		r

Group : 37 - Birds

Code	Scientific Name	Vernacular Name	Species Status
592	<i>Larus argentatus</i>	Herring Gull	4
670	<i>Columba palumbus</i>	Common Wood Pigeon	1
992	<i>Hirundo rustica</i>	Barn Swallow	1
1187	<i>Turdus merula</i>	Common Blackbird	2
1311	<i>Phylloscopus collybita</i>	Common Chiffchaff	1
1312	<i>Phylloscopus trochilus</i>	Willow Warbler	1

Group : 15 - Lepidoptera

Code	Scientific Name	Vernacular Name	Species Status
1574	<i>Polyommatus icarus</i>	Common Blue	2

AREA B Swansea Valley Business Park Ystalyfera TN2004

Grass verge adjacent to tarmac-surfaced pavement; small amount of vegetation encroachment over pavement surfece from adjacent grassland, the adjacent 0.5m wide strip of which is sparse and poorly vegetated, often with depauperate plants. Several plants of poorly-grown False Fox-sedge present along edge of pavement.

Grid ref. : **22/76475 08304** Record date : **20/05/2020**

Habitat : **J4 - Bare ground**

Observer : **Richard D. Pryce**

Vice county : Glamorgan Altitude : 60

Group : 2 - Plants : RP6

Code	Scientific Name	Vernacular Name	Species Status
7.0	<i>Achillea millefolium</i>	Yarrow	r
121.0	<i>Anthoxanthum odoratum</i>	Sweet Vernal-grass	r
169.0	<i>Arrhenatherum elatius</i>	False Oat-grass	o
396.0	<i>Carex otrubae</i>	False Fox-sedge	m

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Land at Swansea Valley Business Park, Ystalyfera: Preliminary Ecological Appraisal

572.0	<i>Crepis capillaris</i>	Smooth Hawk's-beard	r
712.0	<i>Equisetum arvense</i>	Field Horsetail	r
825.0	<i>Festuca rubra</i>	Red Fescue	o
907.0	<i>Geranium dissectum</i>	Cut-leaved Crane's-bill	r
918.0	<i>Geranium robertianum</i>	Herb-Robert	r
1317.0	<i>Myosotis arvensis</i>	Field Forget-me-not	o
1506.4	<i>Poa pratensis</i>	Smooth Meadow-grass	o
1594.0	<i>Potentilla reptans</i>	Creeping Cinquefoil	g
1642.0	<i>Ranunculus acris</i>	Meadow Buttercup	r
1660.0	<i>Ranunculus repens</i>	Creeping Buttercup	r
1728.0	<i>Rubus fruticosus</i> agg.	Bramble	K
1742.0	<i>Rumex crispus</i>	Curled Dock	r
1905.0	<i>Senecio vulgaris</i>	Groundsel	r
2034.0	<i>Taraxacum</i> agg.	Dandelion *	r
2081.0	<i>Trifolium dubium</i>	Lesser Trefoil	r
2126.0	<i>Urtica dioica</i>	Common Nettle	r
2157.0	<i>Verbascum thapsus</i>	Great Mullein	r

AREA B Swansea Valley Business Park Ystalyfera TN2005

Similar to TN2002: very sparse sward, bare, gravelly, clinker, slag and coal substrate; up to c.50% bare ground. One Sycamore seedling noted.

Grid ref. : 22/76474 08281 Record date : 20/05/2020

Habitat : I22 - Spoil heap

Observer : Richard D. Pryce

Vice county : Glamorgan Altitude : 60

Group : 2 - Plants : RP6

Code	Scientific Name	Vernacular Name	Species Status
5.0	<i>Acer pseudoplatanus</i>	Sycamore	K
7.0	<i>Achillea millefolium</i>	Yarrow	b
231.0	<i>Bellis perennis</i>	Daisy	o
467.0	<i>Cerastium fontanum</i>	Common Mouse-ear	o
607.0	<i>Dactylis glomerata</i>	Cock's-foot	r
825.0	<i>Festuca rubra</i>	Red Fescue	g
1016.0	<i>Hypericum tetrapterum</i>	Square-stalked St John's-wort	r
1191.0	<i>Lotus corniculatus</i>	Common Bird's-foot-trefoil	o
1487.0	<i>Plantago lanceolata</i>	Ribwort Plantain	g
1506.0	<i>Poa pratensis sens. lat.</i>	Smooth Meadow-grass	g
1594.0	<i>Potentilla reptans</i>	Creeping Cinquefoil	g
1642.0	<i>Ranunculus acris</i>	Meadow Buttercup	r
1660.0	<i>Ranunculus repens</i>	Creeping Buttercup	o
1748.0	<i>Rumex obtusifolius</i>	Broad-leaved Dock	r
2034.0	<i>Taraxacum</i> agg.	Dandelion *	o
2081.0	<i>Trifolium dubium</i>	Lesser Trefoil	r
2091.0	<i>Trifolium pratense</i>	Red Clover	o
2092.0	<i>Trifolium repens</i>	White Clover	r
2165.0	<i>Veronica arvensis</i>	Wall Speedwell	r

AREA A Swansea Valley Business Park Ystalyfera TN2006

North half of development plateau (north of hording), recently herbicided but frequent stripes missed, very shaly and slaggy substrate, mostly sparse, desiccated vegetation where sprayed with little regrowth. Missed areas have closed grass-dominated sward. Lesser Trefoil (*Trifolium dubium*) surviving on sprayed areas. Occasional Colt's-foot (sprayed flower stems now in seed and desiccated). A few small saplings of Grey Willow, cf White Willow, Butterfly-bush, Gorse and Downy Birch - all regrowth following cutting.

At least one pair of House Martins nesting under eaves of adjacent Office Row cottages (Office Row is not within the Appraisal Site).

Grid ref. : 22/7654- 0823- Record date : 20/05/2020

Habitat : B4 - Improved/reseeded grassland

Observer : Richard D. Pryce

Vice county : Glamorgan Altitude : 60

Group : 2 - Plants : RP6

Code	Scientific Name	Vernacular Name	Species Status
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Land at Swansea Valley Business Park, Ystalyfera: Preliminary Ecological Appraisal

240.0	<i>Betula pubescens</i>	Downy Birch	p
269.0	<i>Bromus hordeaceus</i>	Soft-brome	r
270.0	<i>Bromus hordeaceus subsp.hordeaceus</i>	Soft-brome	r
277.0	<i>Buddleja davidii</i>	Butterfly-bush	o
467.0	<i>Cerastium fontanum</i>	Common Mouse-ear	o
502.0	<i>Leucanthemum vulgare</i>	Oxeye Daisy	r
522.0	<i>Cirsium vulgare</i>	Spear Thistle	r
712.0	<i>Equisetum arvense</i>	Field Horsetail	r
763.0	<i>Eupatorium cannabinum</i>	Hemp-agrimony	r
825.0	<i>Festuca rubra</i>	Red Fescue	b
983.0	<i>Holcus lanatus</i>	Yorkshire-fog	g
1020.0	<i>Hypochaeris radicata</i>	Cat's-ear	g
1067.0	<i>Juncus effusus</i>	Soft-rush	r
1191.0	<i>Lotus corniculatus</i>	Common Bird's-foot-trefoil	g
1594.0	<i>Potentilla reptans</i>	Creeping Cinquefoil	o
1625.0	<i>Pulicaria dysenterica</i>	Common Fleabane	o
1728.0	<i>Rubus fruticosus agg.</i>	Bramble	K
1748.0	<i>Rumex obtusifolius</i>	Broad-leaved Dock	r
1784.0	<i>Salix alba</i>	White Willow	\$
1789.0	<i>Salix cinerea</i>	Grey Willow	r
2034.0	<i>Taraxacum agg.</i>	Dandelion *	o
2081.0	<i>Trifolium dubium</i>	Lesser Trefoil	b
2091.0	<i>Trifolium pratense</i>	Red Clover	g
2092.0	<i>Trifolium repens</i>	White Clover	b
2109.0	<i>Tussilago farfara</i>	Colt's-foot	g
2112.0	<i>Ulex europaeus</i>	Gorse	r
2157.0	<i>Verbascum thapsus</i>	Great Mullein	r
2226.0	<i>Vulpia bromoides</i>	Squirreltail Fescue	b
2516.0	<i>Vicia sativa</i>	Common Vetch	r
Group : 37 - Birds			
Code	Scientific Name	Vernacular Name	Species Status
1001	<i>Delichon urbica</i>	House Martin	2
1020b	<i>Motacilla alba yarrellii</i>	Pied Wagtail	1
Group : 15 - Lepidoptera			
Code	Scientific Name	Vernacular Name	Species Status
1661	<i>Archiearis parthenias</i>	Orange Underwing	1
Group : 30 - Aculeata D/S			
Code	Scientific Name	Vernacular Name	Species Status
477	<i>Bombus terrestris</i>	Buff-tailed Bumble Bee	1

AREA A Swansea Valley Business Park Ystalyfera TN2007

Small pile of rubble c.7m x 4m x 1m high, largely devoid of vegetation, deposited since herbicide was applied to the site as a whole. One plant of a hawkweed (Hieracium species) regrowing at the foot of the NW corner of the pile but not yet showing any signs of flowering.

Grid ref. : **22/76498 08221** Record date : **20/05/2020**

Habitat : **I22 - Spoil heap**

Observer : **Richard D. Pryce**

Vice county : Glamorgan Altitude : 60

Group : 2 - Plants : RP6

Code	Scientific Name	Vernacular Name	Species Status
240.0	<i>Betula pubescens</i>	Downy Birch	r
502.0	<i>Leucanthemum vulgare</i>	Oxeye Daisy	r
712.0	<i>Equisetum arvense</i>	Field Horsetail	r
763.0	<i>Eupatorium cannabinum</i>	Hemp-agrimony	r
825.0	<i>Festuca rubra</i>	Red Fescue	o
1191.0	<i>Lotus corniculatus</i>	Common Bird's-foot-trefoil	r
1495.0	<i>Poa annua</i>	Annual Meadow-grass	r
1594.0	<i>Potentilla reptans</i>	Creeping Cinquefoil	r
2109.0	<i>Tussilago farfara</i>	Colt's-foot	o
2189.0	<i>Vicia cracca</i>	Tufted Vetch	r
2560.0	<i>Hieracium aggregate</i>	Hawkweed	o

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Land at Swansea Valley Business Park, Ystalyfera: Preliminary Ecological Appraisal

AREA A Swansea Valley Business Park Ystalyfera TN2008
Southern half of development plateau (south of hording). Same habitat as TN2006: recently herbicided but frequent stripes missed, very shaly and slaggy substrate, mostly sparse, desiccated vegetation where sprayed, with little regrowth. Missed areas have closed grass-dominated sward. Lesser Trefoil (*Trifolium dubium*) surviving on sprayed areas. Six Jackdaws feeding on ground and another flying over. Occasional regrowth (following cutting) of Downy Birch and Butterfly Bush and rare regrowth of Gorse and Grey Willow. Occasional Colt's-foot (sprayed flower stems now in seed and desiccated). Many slugs and woodlice under discarded wooden sheet but no reptiles. A few sycamore seedlings recorded.
Grid ref. : **22/7649- 0819-** Record date : **20/05/2020**
Habitat : **B4 - Improved/reseeded grassland**
Observer : **Richard D. Pryce**
Vice county : Glamorgan Altitude : 60
Group : 2 - Plants : RP6

Code	Scientific Name	Vernacular Name	Species Status
5.0	<i>Acer pseudoplatanus</i>	Sycamore	K
7.0	<i>Achillea millefolium</i>	Yarrow	r
77.0	<i>Alnus glutinosa</i>	Alder	K
240.0	<i>Betula pubescens</i>	Downy Birch	o
277.0	<i>Buddleja davidii</i>	Butterfly-bush	o
520.0	<i>Cirsium palustre</i>	Marsh Thistle	r
572.0	<i>Crepis capillaris</i>	Smooth Hawk's-beard	o
763.0	<i>Eupatorium cannabinum</i>	Hemp-agrimony	o
976.0	<i>Pilosella officinarum</i>	Mouse-ear-hawkweed	r
976.4	<i>Pilosella officinarum subsp.officinarum</i>		r
983.0	<i>Holcus lanatus</i>	Yorkshire-fog	o
1020.0	<i>Hypochaeris radicata</i>	Cat's-ear	r
1191.0	<i>Lotus corniculatus</i>	Common Bird's-foot-trefoil	g
1748.0	<i>Rumex obtusifolius</i>	Broad-leaved Dock	r
1789.0	<i>Salix cinerea</i>	Grey Willow	r
2034.0	<i>Taraxacum</i> agg.	Dandelion *	r
2081.0	<i>Trifolium dubium</i>	Lesser Trefoil	b
2091.0	<i>Trifolium pratense</i>	Red Clover	o
2092.0	<i>Trifolium repens</i>	White Clover	o
2109.0	<i>Tussilago farfara</i>	Colt's-foot	r
2112.0	<i>Ulex europaeus</i>	Gorse	r
2516.0	<i>Vicia sativa</i>	Common Vetch	r
2649.0	<i>Vicia sativa subsp.segetalis</i>		r

Group : 37 - Birds

Code	Scientific Name	Vernacular Name	Species Status
1560c	<i>Corvus monedula spermologus</i>	Jackdaw	7

Group : 15 - Lepidoptera

Code	Scientific Name	Vernacular Name	Species Status
1549	<i>Pieris brassicae</i>	Large White	1

Woodland adjacent to Swansea Valley Business Park Ystalyfera TN2009
NOT WITHIN APPRAISAL SITE
Woodland adjacent to south-west boundary of site Area A, unmanaged and, although unfenced from road, impenetrable due to dense undergrowth. Locally abundant mature Grey Willow bushes on edge adjacent to site. Several planted, maturing Field Maple trees and scrubby Gorse and Bramble forming understorey along roadside woodland edge. Several bird species including Song Thrush, Blackcap, Chiffchaff and Whitethroat singing.

Grid ref. : **22/7648- 0817-** Record date : **20/05/2020**
Habitat : **A21 - Dense/continuous scrub**
Observer : **Richard D. Pryce**
Vice county : Glamorgan Altitude : 60
Group : 2 - Plants : RP6

Code	Scientific Name	Vernacular Name	Species Status
3.0	<i>Acer campestre</i>	Field Maple	i
250.0	<i>Brachypodium sylvaticum</i>	False Brome	o
277.0	<i>Buddleja davidii</i>	Butterfly-bush	o
444.0	<i>Centaurea nigra</i>	Common Knapweed	o

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467.0	<i>Cerastium fontanum</i>	Common Mouse-ear	r
515.0	<i>Cirsium arvense</i>	Creeping Thistle	r
664.0	<i>Dryopteris filix-mas</i> agg.	Male-fern	r
692.0	<i>Epilobium hirsutum</i>	Great Willowherb	r
763.0	<i>Eupatorium cannabinum</i>	Hemp-agrimony	g
813.0	<i>Festuca arundinacea</i>	Tall Fescue	o
1584.0	<i>Potentilla anserina</i>	Silverweed	r
1728.0	<i>Rubus fruticosus</i> agg.	Bramble	b
1789.0	<i>Salix cinerea</i>	Grey Willow	b
2112.0	<i>Ulex europaeus</i>	Gorse	g
2126.0	<i>Urtica dioica</i>	Common Nettle	r
2168.0	<i>Veronica chamaedrys</i>	Germander Speedwell	r
2516.0	<i>Vicia sativa</i>	Common Vetch	o
2649.0	<i>Vicia sativa</i> subsp.segetalis		o
Group : 37 - Birds			
Code	Scientific Name	Vernacular Name	Species Status
670	<i>Columba palumbus</i>	Common Wood Pigeon	1
1187	<i>Turdus merula</i>	Common Blackbird	1
1200	<i>Turdus philomelos</i>	Song Thrush	1
1275	<i>Sylvia communis</i>	Common Whitethroat	1
1277	<i>Sylvia atricapilla</i>	Blackcap	1
1311	<i>Phylloscopus collybita</i>	Common Chiffchaff	1
1539	<i>Garrulus glandarius</i>	Eurasian Jay	1
1567	<i>Corvus corone corone</i>	Carrian Crow	1
1560c	<i>Corvus monedula spermologus</i>	Jackdaw	1

AREA A Swansea Valley Business Park Ystalyfera TN2010

Often sparsely vegetated, herbicided ground, c.12m x 3m, at southern corner of Area A between end of pallisade fence and main road with dominant Lesser Trefoil growing uncharacteristically robustly for the species. Also locally abundant Soft Brome.

Grid ref. : 22/76495 08174 Record date : 20/05/2020

Habitat : B4 - Improved/reseeded grassland

Observer : Richard D. Pryce

Vice county : Glamorgan Altitude : 60

Group : 2 - Plants : RP6

Code	Scientific Name	Vernacular Name	Species Status
7.0	<i>Achillea millefolium</i>	Yarrow	g
269.0	<i>Bromus hordeaceus</i>	Soft-brome	b
270.0	<i>Bromus hordeaceus</i> subsp.hordeaceus	Soft-brome	b
444.0	<i>Centaurea nigra</i>	Common Knapweed	r
467.0	<i>Cerastium fontanum</i>	Common Mouse-ear	r
572.0	<i>Crepis capillaris</i>	Smooth Hawk's-beard	r
825.0	<i>Festuca rubra</i>	Red Fescue	o
907.0	<i>Geranium dissectum</i>	Cut-leaved Crane's-bill	r
976.0	<i>Pilosella officinarum</i>	Mouse-ear-hawkweed	r
976.4	<i>Pilosella officinarum</i> subsp.officinarum	Mouse-ear-hawkweed	r
1169.0	<i>Linum catharticum</i>	Fairy Flax	o
2034.0	<i>Taraxacum</i> agg.	Dandelion *	r
2081.0	<i>Trifolium dubium</i>	Lesser Trefoil	b
2091.0	<i>Trifolium pratense</i>	Red Clover	r
2109.0	<i>Tussilago farfara</i>	Colt's-foot	r
2516.0	<i>Vicia sativa</i>	Common Vetch	r
2649.0	<i>Vicia sativa</i> subsp.segetalis		r

Vacant land south of Swansea Valley Business Park Ystalyfera TN2011

NOT WITHIN APPRAISAL SITE

Vacant, post-industrial SINC site (OMHoPDL) on south-east side of main road and Afon Tawe. Large puddle in excavator track through extensive area of tipped-over ground. Grass Snake swimming in puddle before moving into adjacent rank grass and low scrub and then returning to water and finally disappearing into adjacent rank vegetation - watched for about 15 minutes. Occasional Azure Damselflies. *Potamogeton bertholdii* clump about 0.5m x 0.5m in diameter in puddle.

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Land at Swansea Valley Business Park, Ystalyfera: Preliminary Ecological Appraisal

Grid ref. : 22/7654- 0805- Record date : 20/05/2020

Habitat : I22 - Spoil heap

Observer : Richard D. Pryce

Vice county : Glamorgan Altitude : 60

Group : 2 - Plants : RP6

Code	Scientific Name	Vernacular Name	Species Status
331.0	<i>Cardamine pratensis</i>	Cuckooflower	r
376.0	<i>Carex flacca</i>	Glaucous Sedge	g
397.0	<i>Carex ovalis</i>	Oval Sedge	r
933.0	<i>Glyceria fluitans</i>	Floating Sweet-grass	o
1067.0	<i>Juncus effusus</i>	Soft-rush	g
1194.0	<i>Lotus pedunculatus</i>	Greater Bird's-foot-trefoil	r
1559.0	<i>Potamogeton berchtoldii</i>	Small Pondweed	m
1570.0	<i>Potamogeton natans</i>	Broad-leaved Pondweed	o
1642.0	<i>Ranunculus acris</i>	Meadow Buttercup	r
1651.0	<i>Ranunculus flammula</i>	Lesser Spearwort	r
1767.0	<i>Sagina procumbens</i>	Procumbent Pearlwort	r
1789.0	<i>Salix cinerea</i>	Grey Willow	g

Group : 41 - Vertebrates

Code	Scientific Name	Vernacular Name	Species Status
570	<i>Natrix natrix</i>	Grass Snake	1

Group : 11 - Odonata

Code	Scientific Name	Vernacular Name	Species Status
1007	<i>Coenagrion puella</i>	Azure Damselfly	B.....
3201	<i>Libellula depressa</i>	Broad-bodied Chaser	B.....

Group : 37 - Birds

Code	Scientific Name	Vernacular Name	Species Status
1277	<i>Sylvia atricapilla</i>	Blackcap	1
1312	<i>Phylloscopus trochilus</i>	Willow Warbler	1

Land at Swansea Valley Business Park, Ystalyfera: Preliminary Ecological Appraisal

APPENDIX 3

Amalgamated Species Lists collated from Target Notes

From biorecs 05/06/2020 18:35:15

Group : 1 – Vascular Plants

Field records 11

Species recorded 88

Name	Code	Name	No of TNs from which recorded	Status
Acer campestre	3.0	Field Maple	1	Planted
Acer pseudoplatanus	5.0	Sycamore	2	
Achillea millefolium	7.0	Yarrow	4	
Alnus glutinosa	77.0	Alder	1	
Anthoxanthum odoratum	121.0	Sweet Vernal-grass	4	
Arrhenatherum elatius	169.0	False Oat-grass	3	
Bellis perennis	231.0	Daisy	3	
Betula pubescens	240.0	Downy Birch	3	
Brachypodium sylvaticum	250.0	False Brome	1	
Bromus hordeaceus subsp.hordeaceus	270.0	Soft-brome	2	
Bromus hordeaceus	269.0	Soft-brome	2	
Buddleja davidii	277.0	Butterfly-bush	3	
Cardamine pratensis	331.0	Cuckooflower	1	
Carex flacca	376.0	Glaucous Sedge	1	
Carex otrubae	396.0	False Fox-sedge	1	Possible local interest
Carex ovalis	397.0	Oval Sedge	1	
Carex pendula	404.0	Pendulous Sedge	1	
Centaurea nigra	444.0	Common Knapweed	2	
Cerastium fontanum	467.0	Common Mouse-ear	6	
Cirsium arvense	515.0	Creeping Thistle	1	
Cirsium palustre	520.0	Marsh Thistle	1	
Cirsium vulgare	522.0	Spear Thistle	1	
Crepis capillaris	572.0	Smooth Hawk's-beard	4	
Cynosurus cristatus	597.0	Crested Dog's-tail	1	
Dactylis glomerata	607.0	Cock's-foot	4	
Dryopteris filix-mas	664.0	Male-fern	1	
Epilobium hirsutum	692.0	Great Willowherb	1	
Equisetum arvense	712.0	Field Horsetail	3	
Eupatorium cannabinum	763.0	Hemp-agrimony	4	
Festuca arundinacea	813.0	Tall Fescue	1	
Festuca rubra agg.	824.0	Red Fescue	1	
Festuca rubra	825.0	Red Fescue	7	
Geranium dissectum	907.0	Cut-leaved Crane's-bill	2	
Geranium robertianum	918.0	Herb-Robert	1	
Glyceria fluitans	933.0	Floating Sweet-grass	1	
Hieracium aggregate	2560.0	Hawkweed	1	
Holcus lanatus	983.0	Yorkshire-fog	3	
Hypericum tetrapterum	1016.0	Square-stalked St John's-wort	2	
Hypochaeris radicata	1020.0	Cat's-ear	4	
Juncus effusus	1067.0	Soft-rush	2	
Juncus inflexus	1070.0	Hard Rush	1	
Leucanthemum vulgare	502.0	Oxeye Daisy	2	
Linum catharticum	1169.0	Fairy Flax	1	
Lolium perenne subsp.perenne	6932.0		1	
Lolium perenne	1183.0	Perennial Rye-grass	2	
Lotus corniculatus	1191.0	Common Bird's-foot-trefoil	6	
Lotus pedunculatus	1194.0	Greater Bird's-foot-trefoil	1	
Myosotis arvensis	1317.0	Field Forget-me-not	1	
Pilosella officinarum subsp.officinarum	976.4		3	
Pilosella officinarum	976.0	Mouse-ear-hawkweed	3	
Plantago lanceolata	1487.0	Ribwort Plantain	4	
Poa annua	1495.0	Annual Meadow-grass	2	
Poa pratensis sens. lat.	1506.0	Smooth Meadow-grass	2	
Poa pratensis	1506.4	Smooth Meadow-grass	1	
Potamogeton berchtoldii	1559.0	Small Pondweed	1	Not in appraisal site. Local interest
Potamogeton natans	1570.0	Broad-leaved Pondweed	1	Not in appraisal site

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Potentilla anserina	1584.0	Silverweed	2	
Potentilla reptans	1594.0	Creeping Cinquefoil	6	
Pulicaria dysenterica	1625.0	Common Fleabane	1	
Quercus robur	1640.0	Pedunculate Oak	1	
Ranunculus acris	1642.0	Meadow Buttercup	5	
Ranunculus flammula	1651.0	Lesser Spearwort	1	
Ranunculus repens	1660.0	Creeping Buttercup	3	
Rubus fruticosus agg.	1728.0	Bramble	3	
Rumex crispus	1742.0	Curled Dock	1	
Rumex obtusifolius	1748.0	Broad-leaved Dock	4	
Rumex sanguineus	1753.0	Wood Dock	2	
Sagina procumbens	1767.0	Procumbent Pearlwort	1	
Salix cf alba	1784.0	White Willow	1	
Salix cinerea	1789.0	Grey Willow	4	
Senecio jacobaea	1899.0	Common Ragwort	2	
Senecio vulgaris	1905.0	Groundsel	1	
Sonchus asper	1953.0	Prickly Sow-thistle	1	
Taraxacum agg.	2034.0	Dandelion *	7	
Trifolium dubium	2081.0	Lesser Trefoil	6	
Trifolium hybridum	5459.0	Alsike Clover	1	
Trifolium pratense	2091.0	Red Clover	7	
Trifolium repens	2092.0	White Clover	3	
Tussilago farfara	2109.0	Colt's-foot	4	
Ulex europaeus	2112.0	Gorse	3	
Urtica dioica	2126.0	Common Nettle	2	
Verbascum thapsus	2157.0	Great Mullein	2	
Veronica arvensis	2165.0	Wall Speedwell	1	
Veronica chamaedrys	2168.0	Germander Speedwell	2	
Vicia cracca	2189.0	Tufted Vetch	1	
Vicia sativa subsp.segetalis	2649.0		4	
Vicia sativa	2516.0	Common Vetch	5	
Vulpia bromoides	2226.0	Squirreltail Fescue	1	
TotalSpeciesRecords - 208				
Group : 11 - Odonata				
Field records 1				
Species recorded 2				
Name	Code	Name	No of TNs from which recorded	Status
Coenagrion puella	1007	Azure Damselfly	1	Not in appraisal site
Libellula depressa	3201	Broad-bodied Chaser	1	Not in appraisal site
TotalSpeciesRecords - 2				
Group : 15 - Lepidoptera				
Field records 3				
Species recorded 3				
Name	Code	Name	No of TNs from which recorded	Status
Common Blue	1574	Polyommatus icarus	1	
Large White	1549	Pieris brassicae	1	
Orange Underwing	1661	Archiearis parthenias	1	
TotalSpeciesRecords - 3				
Group : 30 - Aculeata D/S				
Field records 2				
Species recorded 2				
Name	Code	Name	No of TNs from which recorded	Status
Buff-tailed Bumble Bee	477	Bombus terrestris	1	
Early Bumble Bee	469	Bombus pratorum	1	
TotalSpeciesRecords - 2				
Group : 37 - Birds				
Field records 5				
Species recorded 14				
Name	Code	Name	No of TNs from which recorded	Status
Barn Swallow	992	Hirundo rustica	1	
Blackcap	1277	Sylvia atricapilla	2	Not in appraisal site

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Carrion Crow	1567	Corvus corone corone	1	Not in appraisal site
Common Blackbird	1187	Turdus merula	2	Not in appraisal site
Common Chiffchaff	1311	Phylloscopus collybita	2	Not in appraisal site
Common Whitethroat	1275	Sylvia communis	1	Not in appraisal site
Common Wood Pigeon	670	Columba palumbus	2	Not in appraisal site
Eurasian Jay	1539	Garrulus glandarius	1	Not in appraisal site
Herring Gull	592	Larus argentatus	1	
House Martin	1001	Delichon urbica	1	
Jackdaw	1560c	Corvus monedula spermologus	2	
Pied Wagtail	1020b	Motacilla alba yarrellii	1	Not in appraisal site
Song Thrush	1200	Turdus philomelos	1	Not in appraisal site
Willow Warbler	1312	Phylloscopus trochilus	2	Not in appraisal site
TotalSpeciesRecords - 20				

Group : 41 - Vertebrates

Field records 1				
Species recorded 1				
Name	Code	Name	No of TNs from which recorded	Status
Grass Snake	570	Natrix natrix	1	Not in appraisal site
TotalSpeciesRecords - 1				

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APPENDIX 4**ECOLOGY, SURVEY METHODS, CONSERVATION STATUS AND PROTECTION
LEGISLATION OF PROTECTED AND SIGNIFICANT FAUNA**

Not all of the species included below may be present at this site but are included here for completeness.

Bats (Chiroptera)**Ecology and conservation status**

Different bat species have different life-cycle strategies but, in general, each requires the following features:

- hibernation roost sites, where stable winter temperatures allow a period of winter torpor (e.g. underground sites such as caves and mines, or crevices and hollows in mature standing trees),
- nursery roost sites, where females gather in the spring/early summer to give birth and rear their single offspring (e.g. roof spaces, crevices and hollows in mature standing trees),
- roost sites for individual, or small congregations of, males during spring-autumn (e.g. roof spaces, or crevices and hollows in mature standing trees),
- an insect-productive (usually ecologically diverse) feeding environment,
- additionally, there is, as yet, a poorly understood need for social-gathering sites at certain times of the year (e.g. the autumn mating season) for some, or all, species.

Most, if not all, British bat species are believed to be in decline; main threats to bat populations can be summarised as:

- the loss of invertebrate-rich foraging areas (eg. woodland, hedgerows, ponds),
- the loss of nursery and hibernation roosts (eg. Caves and mines, roof spaces, large standing trees), and
- the effects of toxic chemicals (eg. timber preservatives in roof-space roosts, agricultural insecticides which reduce prey species).

All British bats are protected under Schedule 5 of the Wildlife and Countryside Act (as amended by the Countryside and Rights of Way Act 2000), and are listed in Schedule 2 of the Conservation (Natural Habitats &c.) Regulations 1994 (the "Habitat Regulations", which implement the EC Habitats and Species Directive in the UK). These legal instruments make it an offence to kill, injure or disturb a bat or to damage, destroy or obstruct a place of rest or shelter (roost), even when unoccupied.

A licence, issued by Natural Resources Wales under regulation 44(2)(e) of the Habitats Regulations, is required for actions or works which compromise the protection afforded to European Protected Species.

Following an August 2007 re-interpretation of the two key legislations, the concept of "significance" is now applied to "disturbance" issues. In some situations, it can be considered that a proposed disturbance falls below a significance threshold and a licence from the Welsh Government will not be required. However, in such circumstances, disturbing a bat remains an offence under the Wildlife and Countryside Act. To avoid such an offence, the Statutory Nature Conservation Organisation (in Wales, Natural Resources Wales) must be allowed a reasonable time to advise and comment (Ref: *Disturbance and protected species: understanding and applying the law in England and Wales. A view from Natural England and the Countryside Council for Wales. Aug 2007.*)

The two Pipistrelles, Greater and Lesser Horseshoe, Barbastelle and Bechstein bats are UK Biodiversity Action Plan Priority Species and are *Species of Principal Importance for Conservation of*

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Biological Diversity in Wales listed under Section 74 of the Countryside and Rights of Way Act 2000 as reviewed under Section 40 of the Natural Environment and Rural Communities Act 2006, listed at Section 42 of that Act and subsequently listed under section 7 of the Environment (Wales) Act 2016. All bats are also covered by a Species Action Plan implemented in most Local Biodiversity Action Plans.

Applications for Planning Consent

In the event of bat presence at a proposed development site where planning consent is sought, appropriate mitigation measures will be required prior to the disturbance or demolition of the buildings or other features used as bat roosts in order to ensure that replacement roosts are provided before the existing roosts are destroyed.

Where development may result in disturbance to bat roosts, mitigation measures will be recommended which are based on the surveyors' experience of similar situations, with reference to *Bat Mitigation Guidelines* (English Nature, 2004) and the *Bat Workers' Manual* 3rd ed. (JNCC, 2004) and, where necessary, in consultation with Natural Resources Wales.

These measures will need to be approved by Natural Resources Wales (NRW) prior to an application to the Welsh Government for a *Licence to Disturb a European Protected Species*. NRW will need to be consulted, approve and endorse the mitigation proposals before the application for planning consent can be considered by the Local Planning Authority's Development Control staff. This early consideration seeks to

- i) avoid changes in planning designs following the granting of planning consent,
- ii) ensure that Local Planning Authorities comply with regulation 3(4) of the Habitats Regulations, and
- iii) allow NRW to properly advise the Local Planning Authority.

Survey Methods

An external and internal daytime search of potential roost features is carried out, searching for possible bat entry/exit points, other evidence, principally faeces, of bat entry to buildings and direct evidence of roosting bats.

On-site trees are visually examined from the ground with the aid of x10 binoculars and x15-45 telescope, as necessary, seeking physical characteristics which might shelter bats including:

- *cracks*: including inter-stem interstices, deeply fissured bark and/or lifted bark plates, elongated holes, twisted and breaking limbs (used by eg pipistrelle and *Myotis* spp.)
- *splits*: including shattered or broken limbs and trunks (used by eg Barbastelle)
- *holes*: including lost-limb rot at main stem, woodpecker holes (used by eg Noctule)
- *deadwood/basal rot*: a good indicator of internal cavities/hollow stems
- *ivy*: where ivy stems are sufficiently mature to form plates behind which bats might roost and/or which are sufficiently massive to obscure other roost-potential (eg holes).

Evidence of use is sought including urine staining, faeces, etc.

Assessment is also made of

- i) the potential foraging value of the site during the spring-summer-autumn period of bat activity,
- ii) potential bat-travel lines through/around the site.

Bat activity is assessed by direct observation of potential roosts before and after dusk (ie the period when bats emerge from roost sites) in order to detect any bat use of the feature. Electronic, eg heterodyne and time-expansion ultrasound, detectors are used to ensure detection of all species, including low- and high-range frequency bats.

Bat Roost potential

Trees should be assessed for their potential to provide bat roosting sites and scored using the following classification system:

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Tree assessment category	Stage 1	Stage 2	Constraints to tree felling or disturbance
Known or confirmed roost	European Protected Species Licence is required in order to carry out the felling or disturbance legally. This will require further input from a licenced bat ecologist		
Category 1* multiple features suitable for multi-animal use	further assessment required pre-works to determine use using either <u>direct examination survey</u> and/or <u>direct observation emergence/ entry survey</u>	Either Proceed as for a “known or confirmed roost” (above) or “soft felling” supervised by the ecologist	Either European Protected Species Licence must be procured or “soft felling” supervised by the ecologist
Category 1 Fewer or less suitable features, and/or potential for individual roosting	Further assessment will be required pre-works to determine bat use by means of a general bat-activity survey,	Either Proceed as for a “known or confirmed roost” (above) or as category 2 (below)	Either European Protected Species Licence must be procured or Take reasonable care during works- stop work & seek advice if potential roost features found
Category 2 No features visible from the ground but the size or age of the tree might or obscuring ivy might point to the potential for roost features	None unless new evidence is found during works	none	Take reasonable care during works- stop work & seek advice if potential roost features found
Category 3 no potential to host roosting bats	none	none	none

Otter (*Lutra lutra*)

Ecology and conservation status

The Otter is a semi-aquatic mammal, dependent on fish/ amphibians for food, and requiring dense vegetation and/or bankside holes for sheltered resting/breeding sites (“holts”). Individual animals inhabit territories which may extend along many kilometres of watercourse: such territories include many holts.

The Otter is a species of high conservation concern in the UK, having disappeared from most of its range during the 1950/60s. The species has made a dramatic recovery during the past 10-15 years,

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following i) the withdrawal of various (largely agricultural) chemical pollutants, and ii) efforts to improve water quality and riparian habitats.

The Otter is protected by its inclusion on Schedule 5 of the Wildlife & Countryside Act 1981 (as amended), Appendix II of the Bern Convention, Annexes II and IV of the Habitats Directive, Schedule 2 of the Conservation (Natural Habitats) Regulations, 1994, and Appendix 1 of CITES. Section 9 of the Wildlife & Countryside Act provides that it is an offence to kill, injure or take an animal, to have an animal in one's possession, to offer an animal (or parts/derivatives thereof) for sale, or **to damage, destroy or obstruct access** to a place or structure being used for shelter or protection.

Any development work to be carried out which affects a holt or is in the vicinity of a holt (generally taken to be 30m radius) can only be undertaken following the granting of a licence by Natural Resources Wales (NRW) acting under regulation 44(2)(e) of the Habitats Regulations, which is a requirement for actions/works which may affect European Protected Species. NRW will only issue such a licence when it is satisfied that the well-being of the protected species will not be compromised.

The Otter is a Priority Species in the UK Biodiversity Action Plan and is a *Species of Principal Importance for Conservation of Biological Diversity* in Wales listed under Section 74 of the Countryside and Rights of Way Act 2000 as reviewed under Section 40 of the Natural Environment and Rural Communities Act 2006, listed at Section 42 of that Act and subsequently listed under section 7 of the Environment (Wales) Act 2016. It is also a species for which a Species Action Plan has been implemented in the most Local Biodiversity Action Plans.

Survey Methods:

Otter survey methodology includes the examination of all watercourses for field evidence of Otter presence within the site and its vicinity. An assessment of the potential for Otter usage of the site at other seasons is also made.

Otter field signs are sought. These include spraint (characteristic faeces, often deposited in prominent positions along watercourses), footprints, holts and feeding remains. The habitat along and in the vicinity of the watercourse is also assessed for potential Otter rest-sites. Potential other-season feeding sites are also sought, eg sites that may support amphibian assemblages in late winter to early spring.

Watercourses are also assessed for their potential as Otter travel routes, eg between main rivers and streams, across watersheds and to likely off-site feeding areas.

Reedbeds, dense bankside bramble scrub and other heavily vegetated river or stream banks may offer potential resting sites for otters, ie sites that might be used for single-day lying-up. These potential sites are also assessed and recorded during the survey.

Dormouse (*Muscardinus avellanarius*)**Ecology and conservation status**

The dormouse is a nocturnal animal that lives and feeds among the branches of trees and shrubs. When active animals rarely descend to the ground and are reluctant to cross open spaces. Dormice become torpid in cold temperatures in order to conserve energy and retire into spherical nests woven from grass, stripped honeysuckle bark etc, often located low in dense vegetation or hedge-bottoms. Depending upon the season, animals can be expected to be torpid between October to May inclusive.

Dormice live at low population densities (up to 5/ha), so single small woodlands generally do not contain viable populations. Generally, woodlands less than 20 hectares in size are unlikely to sustain Dormice indefinitely, unless they form part of a network linked by hedges or woodland strips. Dormice do not have large ranges (typically less than 1 ha in the course of a whole summer) and rarely go more than 70m from their daytime nest.

Dormice feed on flowers (nectar and pollen), fruits (berries and nuts) and some insects (especially aphids and caterpillars). In spring and early summer, the dormouse must move from one tree species to another, as the different flowers become available. In the autumn there is abundant food, but as

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most berries and nuts are not ripe before about August there is a period of potential plant food shortage. Insects may be particularly important in the diet at this season, but insects (particularly aphids and caterpillars) are consumed at all times. A high diversity of trees and shrubs is most likely to ensure that an unbroken sequence of foods is available. Valuable species include Hazel, Oak, Honeysuckle, Sycamore, Wayfaring tree, Yew, Hornbeam, Sallow, Birch, Sweet Chestnut, Blackthorn, Hawthorn, Cherry, Crab-apple, Rowan, Ash, Holly, Bramble, Bracken, Broom and rank Heather.

Dormice require high species diversity of trees and shrubs in a mosaic of age classes with a multi-storied canopy structure and an abundance of edge-habitat, with plenty of links between them and suitable hedgerows and other connecting scrubby habitats across the landscape. The best habitats seem to have a vigorous, unshaded shrub layer producing plenty of food with some mature canopy trees. Coppice with standards woodlands managed on a long rotation is probably the ideal environment for Dormice, although coupe management is also an important management consideration.

Any development work to be carried out which may affect either individual dormice or their habitat must only be undertaken following the granting of a licence by Natural Resources Wales (NRW) acting under regulation 44(2)(e) of the Habitats Regulations, which is a requirement for actions/works which may affect European Protected Species. NRW will only issue such a licence when it is satisfied that the well-being of the protected species will not be compromised. See further details under bats (above).

The Dormouse is a Priority Species in the UK Biodiversity Action Plan and is a *Species of Principal Importance for Conservation of Biological Diversity* in Wales listed under Section 74 of the Countryside and Rights of Way Act 2000 as reviewed under Section 40 of the Natural Environment and Rural Communities Act 2006, listed at Section 42 of that Act and subsequently listed under section 7 of the Environment (Wales) Act 2016. It is also covered by a Species Action Plan implemented in most Local Biodiversity Action Plans.

Survey Methods:

The habitats within the study area are assessed for their suitability to support Dormice, those habitat characteristics described above, searching for field-signs, indicative but not diagnostic of dormouse presence such as nests, stripped honeysuckle bark frayed honeysuckle bark (evidence of nest building), chewed ash keys and chewed honeysuckle flowers) and characteristically opened hazel nut shells. The classic survey method is to make timed searches for characteristically opened hazel nuts in the vicinity of hazel bushes in hedgerows, scrub, coppices and woodland. However, this method can only detect the species where hazel is present. A more reliable method is to place survey tubes in suitable habitat, eg hedgerow corridors, and check these on a monthly basis during late spring to early autumn, examining them for hair samples collected by a sticky pad in the tube. Other survey methods may involve nest box monitoring and radio-tracking.

Water Vole (*Arvicola terrestris*)

Ecology and conservation status

Principally found in slow running rivers and ponds with plentiful emergent vegetation, on which they largely feed, this species is believed to have declined nationally by some 90% in the last thirty years. Predation by Mink is considered to be an important factor; other factors include pollution and habitat loss/degradation.

Water Voles and their habitats are protected under schedule 5 of the Wildlife & Countryside Act 1981, (as amended), appendix II of the Bern Convention, annexes II and IV of the Habitats Directive, schedule 2 of the Conservation (Natural Habitats) Regulations 1994, and appendix 1 of CITES. Advice must be sought from Natural Resources Wales prior to the commencement of any development works within or within the vicinity of water vole habitat. NRW will generally require mitigation measures to be undertaken to ensure that the habitat available for the species is not reduced.

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The Water Vole is a Priority Species in the UK Biodiversity Action Plan and is a *Species of Principal Importance for Conservation of Biological Diversity* in Wales listed under Section 74 of the Countryside and Rights of Way Act 2000 as reviewed under Section 40 of the Natural Environment and Rural Communities Act 2006, listed at Section 42 of that Act and subsequently listed under section 7 of the Environment (Wales) Act 2016. It is also a species for which a Species Action Plan has been implemented in the most Local Biodiversity Action Plans.

Survey Methods:

Survey all on-site watercourses for field evidence of Otter and Water Vole activity or presence.

Water Vole survey is best carried out in late May and June which allows the maximum opportunity for field-signs to develop following the Voles' winter period of semi-hibernation. Survey is conducted by systematic hand-search, on one bank of all watercourses for faeces, burrows and runways, feeding sites and footprints.

Badger (*Meles meles*)**Ecology and conservation status**

Badgers are opportunistic omnivores, taking a range of fruits, nuts and cereals. In Britain, earthworms are the single most important food item. Varied habitats, with a range of natural and semi-natural features, support the greatest numbers of animals. Woodland is usually chosen for main setts and areas of agriculturally-improved grazing are important sources of earthworms.

Badgers live in social groups, comprising 2-25 animals (average 6). The group defends a territory of 10 - 300 hectares (average 50ha), depending on habitat quality. Such territories are stable over time and contain adequate food resources and underground shelters known as setts to support the social group.

Setts comprise a series of tunnels and chambers in which Badgers rest and breed. Typically, they are dug on south facing slopes in free-draining soils and woodland is favoured for sett sites. Different types of sett are recognised as follows:

- the main sett is in continuous use (in some cases for several hundred years) and is used for breeding.
- annexe setts are close (usually < 150m) to main setts and smaller; they are used infrequently as an alternative to the main sett (perhaps by individuals temporarily excluded because of breeding activity in the main sett).
- subsidiary and outlier setts are used sporadically, typically have one or two holes, and may be located anywhere in the territory.

The Badger and its underground "sett" are protected by various legislation. Schedule 6 of the Wildlife & Countryside Act, 1981, the Bern Convention III and The Protection of Badgers Act 1992. This latter legislation makes it illegal to kill or injure any Badger or to intentionally or recklessly damage, destroy or obstruct access to a sett. Cases have been brought to court by the RSPCA on welfare grounds where significant losses of foraging resources have occurred during development schemes. Any development work to be carried out within the vicinity (generally 30m) of a sett requires a licence to be obtained in advance from Natural Resources Wales or the Welsh Government. Best practice protocols for carrying out developments in the vicinity of Badger setts are outlined at appendix 5.

Survey Methods:

The study area is examined for evidence of Badger presence and activity. Such field signs as setts (the underground breeding/resting holes of Badgers), latrines (dung pits, often used as territory-markers), footpaths (identified by footprints, hairs caught on wire fences) and feeding areas (identified by characteristically disturbed or uprooted ground) would indicate site usage by Badgers and are recorded.

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Other Mammals

Brown Hare (*Lepus europaeus*)

Populations of Brown Hare are known to have decreased dramatically over the last thirty years, most particularly in pastoral western Britain. The Brown Hare is a Priority Species in the UK Biodiversity Action Plan and is a *Species of Principal Importance for Conservation of Biological Diversity* in Wales listed under Section 74 of the Countryside and Rights of Way Act 2000 as reviewed under Section 40 of the Natural Environment and Rural Communities Act 2006, listed at Section 42 of that Act and subsequently listed under section 7 of the Environment (Wales) Act 2016. It is also covered by a Species Action Plan implemented in most Local Biodiversity Action Plans.

Hedgehog (*Erinaceus europaeus*)

Populations of Hedgehog have declined significantly in recent years, so much so that it has recently been added to the list of *Species of Principal Importance for Conservation of Biological Diversity* in Wales at Section 42 of the Natural Environment and Rural Communities Act 2006 and subsequently listed under section 7 of the Environment (Wales) Act 2016.

Water Shrew (*Neomys fodiens*)

Harvest Mouse (*Micromys minutus*),

The Water Shrew and Harvest Mouse are little known species whose habitats appear to include reedbed and ditch habitats in south Wales.

For each of these species, long-term and/or season-specific investigation is generally necessary.

Reptiles

Six native reptile species occur in Britain: the Adder (*Vipera berus*), the Grass Snake (*Natrix natrix*), the Smooth Snake (*Coronella austriaca*), the Sand Lizard (*Lacerta agilis*), Common Lizard (*Lacerta vivipara*) and the Slow Worm (*Anguis fragilis*). The Wildlife & Countryside Act 1981 (as amended and including any amendments within the Countryside and Rights of Way Act, 2001) provides varying levels of protection for these species. The Smooth Snake and Sand Lizard are afforded complete protection under schedule 5 of the Act; neither of these species is recorded in Wales. The other four species are protected in respect of killing, injuring and sale. Reptiles are also *Species of Principal Importance for Conservation of Biological Diversity* in Wales listed under Section 74 of the Countryside and Rights of Way Act 2000 as reviewed under Section 40 of the Natural Environment and Rural Communities Act 2006, listed at Section 42 of that Act and subsequently listed under section 7 of the Environment (Wales) Act 2016. They are also covered by a Species Action Plan implemented in most Local Biodiversity Action Plans.

Grass snakes are most commonly associated with wet habitats, and frequently feed on aquatic animals such as frogs. The Adder and Slow Worm are typically associated with drier, heathland habitat and the Common Lizard is found in a wide range of habitats. All these species are cold blooded, and need to bask in sunlight: such basking opportunities are readily found on south-facing slopes, eg free-draining railway and road embankments, and are traditionally good sites to find these species.

Reptile surveys include

1. the assessment of habitats for their suitability for supporting the various species;
2. opportunistic turning of debris to search for animals;
3. surveys by artificial-refugia sheet survey and/or drift-fence/pit-fall trap survey.

Amphibians

Six native amphibian species occur in Britain: the Common Frog (*Rana temporaria*), the Common Toad (*Bufo bufo*), the Natterjack Toad (*Bufo calamita*), the Smooth Newt (*Triturus vulgaris*), the Palmate Newt (*T. helveticus*) and the Great Crested Newt (*T. cristatus*). All amphibians have aquatic egg and larval stages and are therefore dependent on water for successful breeding. Eggs are laid, in suitable ponds, during the early spring, and the larvae (tadpoles) remain in the water for

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several weeks or months. Adults of each of these species typically spend 6-9 months on land in invertebrate-rich feeding areas and in over-winter hibernacula.

The Wildlife & Countryside Act 1981 provides varying levels of protection for these species: the Great Crested Newt is afforded complete protection under schedule 5 of the Act. Any development work to be carried out within an area where this species occurs requires a licence to be obtained in advance from Natural Resources Wales. The Great Crested Newt, Common Toad and Natterjack Toad are *Species of Principal Importance for Conservation of Biological Diversity* in Wales listed under Section 74 of the Countryside and Rights of Way Act 2000 as reviewed under Section 40 of the Natural Environment and Rural Communities Act 2006, listed at Section 42 of that Act and subsequently listed under section 7 of the Environment (Wales) Act 2016 and are Priority Species in the UK Biodiversity Action Plan. Amphibians are also covered by a Species Action Plan implemented in most Local Biodiversity Action Plans.

Amphibian surveys include

1. the assessment of habitats for their suitability for supporting the various species;
2. opportunistic turning of debris to search for animals eg terrestrial phase tailed amphibians (newts) and Common Toad;
3. surveying ponds during the breeding season by direct observation, bottle trapping, netting, torch-light survey and/or egg-observation and
4. terrestrial surveys by opportunistic turning-over of stones and other debris, artificial-refugia sheet survey and/or drift-fence/pit-fall trap survey.

Barn Owl

Ecology

Barn Owls require an undisturbed site in which to nest and a relatively wide area of land over which to hunt. Their diet comprises principally of small-mammals and their hunting territory is usually land which includes a variety of grassland habitats which support good populations of mice, voles, etc. Their nest sites are invariably high-up in barns or dry outbuildings but they will also nest in suitable boxes placed in trees.

Legal status

All bird species receive legal protection under the Wildlife and Countryside Act 1981 with degrees of greater or lesser protection being detailed in various schedules of the Act. For instance, all nests occupied or being built by breeding birds are protected against disturbance and scarce bird species listed on schedule 1 of the Act are afforded comprehensive protection. The Barn Owl is included on schedule 1. Also, many species are protected by international conventions and directives including The EC Birds Directive, The Bonn Convention and the Bern Convention. Barn Owl is included on schedule 2 of the Bern Convention.

The UK Biodiversity Action Plan identifies species and habitats for which conservation action is a priority. In Wales, the list of Priority Species has been amended by the Welsh Assembly Government under Section 74 of the Countryside and Rights of Way Act 2000. This list of species was subsequently reviewed under Section 40 of the Natural Environment and Rural Communities Act 2006 and amended to provide a list of *Species of Principal Importance for Conservation of Biological Diversity* in Wales under Section 42 of that Act, replaced in Wales by the list under section 7 of the Environment (Wales) Act 2016. Whilst the Barn Owl is not included as a *Species of Principal Importance*, most Local Biodiversity Action Plans include it as a species for which conservation action has been implemented. The Pembrokeshire Local Biodiversity Action Plan has implemented such action.

Bird species which have suffered serious population or range declines over the past 25 years are highlighted in *Birds of Conservation Concern* (RSPB, 2002). The Red List includes those species which have suffered >50% decline and the Amber List includes those species which have undergone a 25-50% decline in the past 25 years. The Barn Owl is included on the Amber List.

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Other Birds

Birds occupy all habitats and the various species range from being widespread and common, which are unlikely to pose a significant constraint to planned development works, to those which are rare and therefore of high conservation concern and which may pose a significant constraint.

All bird species receive legal protection under the Wildlife and Countryside Act 1981, with degrees of greater or lesser protection being detailed in various schedules of the Act. Schedule 1 of the Act gives comprehensive protection to scarce species. Also, many species are protected by international conventions and directives including The EC Birds Directive, The Bonn Convention and the Bern Convention.

All bird's nests occupied or being built by breeding birds are protected against disturbance by the Wildlife and Countryside Act 1981. It is therefore recommended that no vegetation clearance or disturbance to other potential nesting habitat is undertaken during the bird breeding season (March to July inclusive) unless it is judged, by a qualified ornithologist, that site operations will not disturb any nesting birds. Such a survey needs to be undertaken immediately prior to the commencement of such works.

The UK Biodiversity Action Plan identifies species and habitats for which conservation action is a priority. In Wales, this list has been slightly amended by the Welsh Assembly Government under Section 74 of the Countryside and Rights of Way Act 2000 which was endorsed when reviewed under Section 42 of the Natural Environment and Rural Communities Act 2006 and subsequently under section 7 of the Environment (Wales) Act 2016. *Species of Principal Importance for Conservation of Biological Diversity* in Wales are those in need of urgent action because, for example, of severe decline in population size or contraction in range.

Bird species which have suffered serious population or range declines over the past 25 years are highlighted in *Birds of Conservation Concern* (RSPB, 2002, frequently updated). The Red List includes those species which have suffered >50% decline and the Amber List includes those species which have undergone a 25-50% decline in the past 25 years.

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APPENDIX 5**BEST PRACTICE PROTOCOL FOR TREE FELLING WHERE TREES HAVE THE POTENTIAL FOR SUPPORTING ROOSTING OR HIBERNATING BATS**

Mature trees with trunk/branch cavities and/or a covering of ivy are particularly valuable bird nesting and bat roost sites, and will be retained wherever possible; compensatory planting with appropriate species will be undertaken where felling is inevitable.

Where tree felling or lopping is planned, such work will only be carried out between August and February to avoid the bird-breeding season.

All bats are protected by the Wildlife and Countryside Act 1981. Bat tree-roosts are extremely difficult to identify, and it should be assumed that any mature native-species tree is an actual roost. Every effort should be made to avoid disturbance or damage to these trees during construction work. It is an offence under the Wildlife and Countryside Act to knowingly disturb bat roosts or hibernacula. To minimise disturbance to bat populations by the removal of trees the following protocol will be followed.

- As far as possible all trees having bat roost potential should be preserved. If it is necessary for trees to be removed, all felling operations will bear due regard to this protocol.
- If bats are found during tree work, then all work will stop and Natural Resources Wales must be informed immediately.
- If the tree trunk is smaller than 200mm diameter and if it has no dense ivy, suitable holes, loose bark, and no holes associated with the root system, then work can be carried out on the tree between September and February (ie avoiding the bird breeding season).
- To avoid disturbing nursery roosts, work must never be carried out between June and August inclusive.
- If the tree does have any of the above or has a trunk size greater than 200mm, it must be cut only in September and October when bats, including young of the year, are still mobile and able to fly-out. If cutting must take place at other times, summer is probably best as bats can be more easily seen, can fly away and may take young with them, thus enabling a better chance of survival. But due regard must also be taken of nesting birds and the presence of other breeding fauna.
- If felling were to take place during hibernation (November to March) the bats will be torpid, difficult to see and the whole roost may be lost as they will be unable to escape.
- Any timber cut will be left lying for at least 24 hours to allow bats the opportunity to escape.
- It is also important to consider to what extent the habitat that is being removed is available elsewhere locally. For example, if only one tree in twenty of similar age or structure is to be felled, then it is likely that the impact of the loss will be less important. If the tree to be felled is solitary and in an area with few or no mature trees, then the impact may be significant.

Where the loss of mature trees is unavoidable, compensatory planting with appropriate locally native species of local provenance should be undertaken.

: Flow chart to determine timing of works

(from Billington, G. and Norman, G. (1997). The Conservation of Bats in Bridges Project.)

```
graph TD
    A[Survey of entire site] -- No --> F[October]
    A -- Yes --> B[Bat roost/potential]
    B -- No --> C[Bird nesting site]
    B -- Yes --> D[Hibernation potential]
    D -- No --> E[Bird nesting site]
    D -- Yes --> F1[Nursery/potential]
    F1 -- No --> G[Bird nesting site]
    F1 -- Yes --> H[Bird nesting site]
    G -- Yes --> I[August]
    G -- No --> J[June - August]
    H -- Yes --> K[April, May & October]
    H -- No --> L[Dec/Jan]
    C -- No --> M[Nursery/potential]
    C -- Yes --> N[Dec/Jan]
    M -- No --> O[Sept-Jan]
    M -- Yes --> P[Dec - March]
    N --> P
    O --> Q[Dec - March  
June - August]
    C --> R[No] --> S[Anytime]
```

The flowchart determines the timing of works based on the following decision points:

- Survey of entire site:**
 - No:** October
 - Yes:** Proceed to Bat roost/potential.
- Bat roost/potential:**
 - No:** Proceed to Bird nesting site.
 - Yes:** Proceed to Hibernation potential.
- Hibernation potential:**
 - No:** Proceed to Bird nesting site.
 - Yes:** Proceed to Nursery/potential.
- Nursery/potential:**
 - No:** Proceed to Bird nesting site.
 - Yes:** Proceed to Bird nesting site.
- Bird nesting site (multiple instances):**
 - Yes:** August
 - No:** June - August
- Bird nesting site (from Hibernation potential Yes):**
 - Yes:** April, May & October
 - No:** Dec/Jan
- Bird nesting site (from Bat roost/potential No):**
 - No:** Dec/Jan
 - Yes:** Dec - March
- Nursery/potential (from Bird nesting site No):**
 - No:** Sept-Jan
 - Yes:** Dec - March
- Sept-Jan:** Dec - March, June - August
- Final outcome:** Anytime

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APPENDIX 6**BEST PRACTICE PROTOCOL PROVIDING FOR THE WELL-BEING OF BADGERS**

If evidence of Badger activity is identified during site surveys or construction works, in order to comply with the Protection of Badgers Act, 1992, it will be necessary to protect all existing setts against disturbance and interference during site works. In general, any disturbance is prohibited within 30m of any active sett unless licensed by Natural Resources Wales or the Welsh Government and then only between the months of July to November inclusive. Significant destruction of foraging grounds may also be judged as an infringement of the law on animal welfare grounds and, in extreme cases, prosecutions have been brought by the RSPCA.

Best practice principles advise that:

- All site personnel are made aware of the presence of setts and foraging grounds
- All site personnel are aware of the implications of the law
- If any setts are found during site works, a substantial fence will be erected, consisting of posts with three plain wires and with clearly visible bunting strung along the top, around each sett, a minimum distance of 30m from any entrance in order to prevent accidental access by any vehicle. A line of bunting supported on road pins is inadequate.
- Fragmentation of Badger territories is minimised during construction works.
- Existing Badger paths will not be obstructed during site works.
- All trenches dug on site will be provided with escape ramps, sloping boards or battered sides to allow any trapped animals to escape. As few trenches as possible will remain open on site over night.
- Fires will not be built near any sett.
- Any chemicals or other noxious substances stored on site will be in an area which is proofed against Badgers.
- If necessary, replacement foraging resources will be provided for the duration of the works.
- Landscaping proposals will bear due regard to the needs of foraging Badgers by the provision of infrequently cut grass verges and native species fruiting trees and shrubs.

APPENDIX 5 PROTECTED and OTHER SIGNIFICANT SPECIES and HABITATS: Recommended Times of Work to avoid undue disturbance												
Feature	January	February	March	April	May	June	July	August	September	October	November	December
Bats and their breeding and resting sites (European Protected Species, WCA,1981, sch.5, E(W)A sect 7)				Limited disturbance to roosts permitted under licence but preferable in September & October					Felling under licence best done now. Felled trees of >20cm diameter must be left to lie on the ground for 24hrs to allow any bats to escape			
Otter and its breeding and resting sites (European Protected Species, WCA,1981, sch.5, E(W)A sect 7)									Disturbance to Otter sites limited to between Sept and Jan and is subject to licence from NRW			
Dormouse and its habitat (European Protected Species, WCA,1981, sch.5, E(W)A sect 7)			Disturbance subject to licence from NRW						Disturbance subject to licence from NRW			
Water vole habitat and places of shelter (WCA,1981, sch.5, E(W)A sect 7)			Disturbance subject to NRW approval						Disturbance subject to NRW approval			
Badger (Protection of Badgers Act 1992)								Work within 30m of a sett or annex permitted and sett closure permitted: all subject to NRW licence				
Hedgehog, Harvest Mouse, Brown Hare, Water Shrew (E(W)A sect 7)	Consult a qualified ecologist before carrying out any works in areas identified as supporting these species											
Red Kite and some other protected bird's nests (WCA,1981, sch.1)	No disturbance at any time											
All other Breeding Birds: nest sites (WCA,1981)	Vegetation clearance permissible		Avoid disturbance to potential nesting habitat during this period unless, immediately prior to commencement of works a qualified ornithologist certifies that no active bird's nests will be disturbed.						Vegetation clearance permissible			
Great Crested Newt and its breeding & hibernation sites (European Protected Species, WCA,1981, sch.5)									Disturbance of breeding or terrestrial habitat should only be carried out between September and January and is subject to licence from NRW			
Other newts frogs & toads (except Natterjack) (WCA,1981, sch.5, E(W)A sect 7) Breeding ponds								Disturbance of amphibian breeding ponds should only be carried out during August to January inclusive				
Other newts frogs & toads (except Natterjack) (WCA,1981, sch.5, E(W)A sect 7) Terrestrial habitat			Disturbance to potential terrestrial habitat should be preceded by a capture and translocate operation or 'destructive search'									
Reptiles (except Smooth Snake) (WCA,1981, sch.5, E(W)A sect 7)			Disturbance to potential terrestrial habitat should be preceded by a capture and translocate operation or 'destructive search'									
Marsh Fritillary butterfly (WCA,1981, sch.5, E(W)A sect 7)	Areas supporting Marsh Fritillaries must not be disturbed except after consultation and advice from NRW											
Other Protected & Significant Invertebrates (WCA, 1981, E(W)A sect 7)	Consult a qualified ecologist before carrying out any works in areas identified as supporting these species											
Habitats of Principal Importance for Conservation of Biological Diversity in Wales (E(W)A sect 7)	Habitats of Principal Importance should not be disturbed at any time of year without prior consultation with a qualified ecologist											
Important Hedgerows as defined in the Hedgerow Regulations, 1997	Important hedgerows may only be removed following the issue of a <i>Hedgerow Removal Order</i> or a valid planning consent issued by the local planning authority											
Uncultivated or semi-natural habitats subject to the Environmental Impact Assessment (EIA) (Agriculture) (Wales) Regulations 2007	Changes to qualifying habitats may only be undertaken after a favourable Screening Decision is given by the Welsh Government or an application for change of use has been approved											
KEY TO COLOURS						ABBREVIATIONS						
Avoid disturbance at any time						NRW	Natural Resources Wales (successor to the Countryside Council for Wales)					
Best time to carry out site work subject to advice and/or licence						WCA	Wildlife and Countryside Act 1981 (as amended)					
Most suitable times for works to take place						E(W)A	Environment (Wales) Act 2016					

APPENDIX 8

EXAMPLES OF BIRD NESTING FEATURES FOR INSTALLING INTO NEW BUILDINGS

Example of prefabricated Swift box

Ibstock Ecoproducts
<http://www.ibstock.com/eco-products/>



Swift Box

Swifts come to the UK for just four months each summer from Central and Southern Africa. Despite legal protection their numbers are declining. Since Roman times they have been at home in traditional man-made buildings. However they find it increasingly difficult to find nest sites in modern or refurbished buildings due to the effective sealing of the eaves.

- Designed with the needs of the swift in mind
- Available in Smooth Blue, Smooth Cream and Smooth Red
- Discrete nesting box for location near eaves
- Ideal for new build and conservation work

Swift nests need to be sited so they have a cler drop of at least 4.5m below them to allow birds to fly in and out unimpeded by nearby trees or other obstructions.

Size (Width x Depth x Height) (mm)	Total System Weight (kg)	Durability
327 x 140 x 140	4.5	Frost Resistant

For more information please contact the Ibstock [Design Advisor Team](#)

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Example of prefabricated House Martin box for installing on new buildings.



Woodstone House Martin Nester,
Product code: 10678

£17.50 ex VAT

In Stock

Only 1 left

Quantity

ADD TO BASKET

 Or

ADD TO QUOTE

Description

Delivery

Returns

A double house martin nest box made from a mixture of concrete and wood fibres, suited for placing in the eaves.

20 x 16 x 11cm

Examples of nest boxes suitable for other bird species.







Blue Tit, Great Tit

Robin

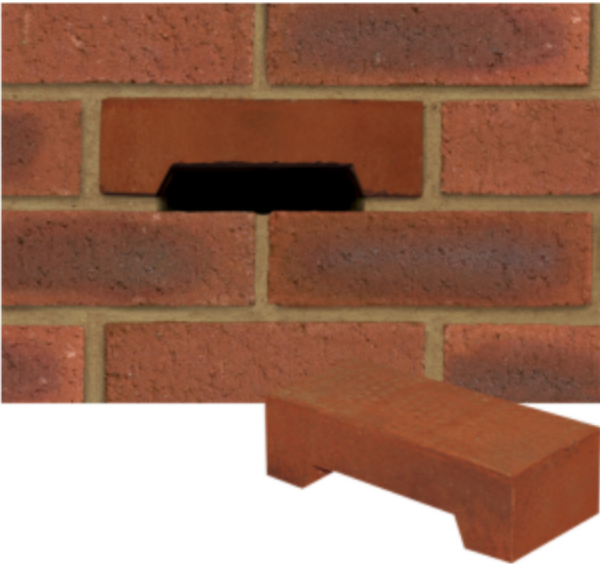
House Sparrow

APPENDIX 9

EXAMPLES OF PREFABRICATED BAT BOXES FOR INSTALLING INTO NEW BUILDINGS

Ibstock Ecoproducts
<http://www.ibstock.com/eco-products/>

In the UK there are 17 species of bats, all of which are protected by law. Our range of bat boxes helps to encourage safe habitats for these remarkable mammals, allowing them to live in harmony with people.



Free Access Bat Box A

- Available in all brick types
- Discrete single bat brick
- Easy to install
- Allows bats to create a natural home habitat within the cavity of the building

	Size (mm)	Durability
Bat Box Type A	215 x 65	F2 S2 – Fully Frost Resistant

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Enclosed Bat Box (B and C)

- Designed specifically for the pipistrelle bat
- Available in all brick types
- Discrete home for bats
- Various sizes
- Several roosting zones are created inside the box
- Bats are contained within the bat box itself
- Maintenance free with entrance at the base
- Ideal for new build & conservation work

	Size (mm)	Durability
Bat Box Type B	215 x 215 or 215 x 290	F2 S2 – Fully Frost Resistant
Bat Box Type C	215 x 215 or 215 x 290	F2 S2 – Fully Frost Resistant

For more information please contact the Ibstock [Design Advisor Team](#)