



Land West of St Athan, Vale of Glamorgan

## **Preliminary Ecological Appraisal**

December 2022

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## 1.0 NON-TECHNICAL SUMMARY

Report Scope and Methodology
<ul style="list-style-type: none"> <li>FPCR were commissioned by Hallam Land Management to undertake a Preliminary Ecological Appraisal at Land west of St Athan, Vale of Glamorgan, Wales, to identify any potential constraints or opportunities to a proposed residential development at the site.</li> <li>An extended phase 1 habitat survey and desktop study were completed by FPCR to inform this assessment. The survey included a walkover of the site on 17<sup>th</sup> November 2022 mapping all habitats present on site along with their potential to offer suitable habitat for protected and notable species.</li> </ul>
Key Findings
<ul style="list-style-type: none"> <li>There were no sites of international importance located within 10km of the Site boundary and only one site of national or regional importance located within 5km of the site boundary, this was East Aberthaw Coast SSSI. Consultation with NRW will be undertaken to assess potential impacts on SSSI site, however given the site is located 2.6km from the Site boundary it is anticipated the proposals will not lead to a likely significant effect on the integrity of this site.</li> <li>Four non-statutory sites of nature conservation importance were located within the 1km search area. The habitat composition within the site boundary is limited primarily to improved grassland and as such, no effects are anticipated on the integrity of the non-statutory sites.</li> <li>The site is dominated by improved grassland habitats, with isolated patches of scattered scrub particularly along the entirety of the southern boundary</li> <li>Other boundary habitats included hedgerows (which all comprised of at least 80% native species) and these habitats were therefore considered habitats of principal importance (NERC S.41).</li> <li>The desktop study returned records of great crested newt, dormice, at least 9 bat species, reptiles and notable bird species within 2km of the site</li> <li>In addition, the site provided some degree of suitable habitat for a range of protected/notable species including bats, dormice nesting birds, reptiles and hedgehog</li> </ul>
Constraints and Opportunities
<ul style="list-style-type: none"> <li>All hedgerows and mature trees should be retained and protected wherever possible and a dormouse licence may be required to facilitate removal. The hedgerow losses anticipated to hedgerows should be compensated for through appropriate planting, ensuring habitat corridors are maintained and enhanced.</li> <li>Vegetation clearance works should be undertaken outside of the bird nesting season (Mar-Aug inclusive) or be supervised by an Ecologist</li> <li>The green infrastructure proposals for the site should include significant creation of grassland, scrub and features such as ponds to benefit local wildlife including protected species that may be recorded on site</li> <li>These habitats should be managed to be of maximum benefit to biodiversity</li> <li>In addition, a range of additional enhancements should be introduced including bat and bird boxes, hedgehog highways and native species planting within landscape proposals</li> </ul>
Recommendations for Further Survey

#### Report Scope and Methodology

- Bats: Activity transect surveys and static detector surveys
- Birds: Breeding bird surveys
- Dormice: Dormice presence/absence surveys
- GCN: NRW to be consulted although further survey unlikely
- Full survey information will be submitted at the application stage

## 2.0 INTRODUCTION

- 2.1 The following report has been prepared by FPCR Environment & Design Ltd. on behalf of the Hallam Land Management and provides a Preliminary Ecological Appraisal of a site on land west of St Athan, Vale of Glamorgan, (Central OS Grid Ref: ST 0101 6780) hereafter referred to as 'the site'. This report details the findings of an extended Phase 1 Habitat Survey including initial observations of any suitable habitats for, or evidence of, protected species.
- 2.2 This Preliminary Ecological Appraisal is based on the Chartered Institute of Ecology and Environmental Management (CIEEM) guidance<sup>1</sup>. The scope and objectives of this report are to:
- Present the findings of the extended phase 1 habitat survey and preliminary protected species assessment;
  - Identify the likely ecological constraints associated with the proposed development;
  - Identify any habitat retention, mitigation and/or compensation measures likely to be required;
  - Identify any additional surveys that may be required to further inform the development proposals; and to,
  - Identify the opportunities available within the proposals to deliver ecological enhancement.
- 2.3 A Preliminary Ecological Appraisal is not intended as a comprehensive submission document for a planning application. It does however provide the necessary basis to be converted into an Ecological Impact Assessment (EclA) to be produced at a later date or may form an appendix of such a document.

### Site Location and Context

- 2.4 St Athan lies in the Vale of Glamorgan, approximately 8 miles (13 kilometres) west of Barry on the B4265, with Cardiff airport lying in between and the Bristol Channel around 1.5km to the south. The site adjoins the western edge of St Athan, with the MOD St Athan lying to the north-west. The site will be served by the B4265 which runs alongside it. The site is currently split into two areas proposed for development, area A which is approximately 23.8ha and area B which is approximately 1.9ha. Both areas are all farmland managed as pasture for grazing sheep and cattle, split into 12 field parcels bounded by hedgerows and fences.
- 2.5 In the surrounding landscape is broadly similar, split into farmland for grazing and arable crops. The coastline is 1.2km south of the site and the River Thaw valley is approximately 1.8km east of the site. Nearby woodland is limited to the river valleys and there is good connectivity throughout the landscape provided by the local network of hedgerows and the railway line that runs between area A and B.

### Site Proposals

- 2.6 The proposals will be for a residential development of up to 600 dwellings, with associated infrastructure and facilities. Green infrastructure will be integrated to retain and enhance features of value for biodiversity.

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<sup>1</sup> CIEEM (2017) Guidelines for Preliminary Ecological Appraisal, 2nd edition. Chartered Institute of Ecology and Environmental Management, Winchester.

### 3.0 LEGISLATION AND POLICY

3.1 Detail on the relevant national policy and legislation for ecology in relation to development sites are provided in Appendix A. The national policy and legislation most relevant here are:

- The Conservation of Habitats and Species Regulations (“The Habitats Regulations”) (Amendment) 2017 in relation to the European Protected Species (EPS) great crested newt, (GCN), bats (all species) and dormouse; and European protected sites i.e. Special Areas of Conservation (SAC), Special Protection Areas (SPAs) and Internationally protected “Ramsar Sites” (collectively known as “Natura 2000 sites”). Annex II bat species of particular relevance in relation to SACs designated for bats.
- The Wildlife and Countryside Act 1981 (WCA) (as amended) in relation to all wild birds (including Schedule 1 species), other animals (notably Schedule 5 species), flora (those listed in Schedules 8 and 9) and Sites of Special Scientific Interest (SSSI);
- Protection of Badgers Act 1992;
- Natural Environmental and Rural Communities (NERC) Act 2006 in relation to various priority species and habitats;
- Hedgerow Regulations 1997 made under Section 97 of the Environment Act 1995;
- Planning Policy Wales Edition 11, Section 6 (2021);
- Local Nature Reserves (LNR) as designated most recently by the NERC Act 2006;
- Non-statutory protected local sites including County Wildlife Sites (CWS), Sites of Importance for Nature Conservation (SINC), Local Wildlife Sites (LWS) and Ancient Woodland Inventory (AWI) sites;
- Local Biodiversity Action Plans (LBAP); and
- Birds of Conservation Concern (BoCC).

## 5.0 METHODOLOGY

- 5.1 In order to compile existing baseline information, relevant ecological information was requested from both statutory and non-statutory nature conservation organisations including:
- Multi Agency Geographic Information for the Countryside (MAGIC);
  - Herefordshire Biological Records Centre (HBRC)
- 5.2 Further inspection of colour 1:25,000 OS base maps ([www.ordnancesurvey.co.uk](http://www.ordnancesurvey.co.uk)) and aerial photographs from Google Earth ([www.maps.google.co.uk](http://www.maps.google.co.uk)) was also undertaken in order to provide additional context and identify any features of potential importance for nature conservation in the wider countryside.
- 5.3 The search area for biodiversity information was related to the significance of sites and species and potential zones of influence, as follows:
- 10km around the application area for sites of International Importance (e.g. Special Areas of Conservation (SACs), Special Protection Areas (SPAs), Ramsar sites).
  - 5km around the application area for sites of National or Regional Importance (e.g. Sites of Special Scientific Interest (SSSIs) and species records (e.g. protected, Local Biodiversity Action Plan (LBAP) or notable species).
  - 1km around the application site for sites of County Importance (e.g. Biological Heritage Sites Local Wildlife Sites).
- 5.4 When handling data, species data were filtered to include records from the previous ten years only (since 2010).

### Extended Phase 1 Habitat Survey

- 5.5 A field survey was conducted on the 19 April 2020. Survey methods followed the extended Phase 1 Survey (JNCC, 2010<sup>2</sup>) technique. This involved a systematic walk over of the site to classify the broad habitat types and identify any Habitats of Principal Importance (HPI) for the conservation of biodiversity as listed within Section 41 (S41) of the Natural Environment and Rural Communities (NERC) Act 2006. Habitats were broadly mapped in the field using an OS base map using pens or pencils as appropriate.
- 5.6 Where feasible, target notes and species lists were compiled for individual areas and assessments of abundance were made using the DAFOR scale. Vascular plant nomenclature follows Stace (2010)<sup>3</sup>. Whilst the species lists collected should not be regarded as exhaustive, sufficient information was gained during the survey to enable classification and assessment of broad habitat types and identify features likely to be of interest.
- 5.7 In addition, hedgerows were surveyed using the Hedgerow Evaluation and Grading System (HEGS)<sup>4</sup>. This method of assessment includes noting down canopy species composition, associated ground flora and climbers, structure of the hedgerow including height, width and gaps, along with associated features such as; the number and species of mature trees, banks, ditches and grass verges.

<sup>2</sup> JNCC (2010). Handbook for Phase 1 habitat survey – a technique for environmental audit. Peterborough: JNCC

<sup>3</sup> Stace, C.A. (2010). New Flora of the British Isles. (3rd Ed.). Cambridge: Cambridge University Press

<sup>4</sup> Clements, D. & Toft, R. (1992). Hedgerow Evaluation and Grading System (HEGS) – a methodology for the ecological survey, evaluation and grading of hedgerows. Countryside Planning and Management



- 5.8 Each hedgerow was given a grade using HEGS with the suffixes '+' and '-', representing the upper and lower limits of each grade respectively. These grades represent a continuum on a scale from 1+ (the highest score and denoting hedges of the greatest nature conservation priority) to 4- (representing the lowest score and hedges of the least nature conservation priority) as follows:

Grade 1 – High to very high value;

Grade 2 – Moderately high to high value;

Grade 3 – Moderate value;

Grade 4 – Low value.

Hedgerows graded 1 or 2 are considered to be a priority for nature conservation.

- 5.9 Also, where appropriate, hedgerows were broadly assessed against the Wildlife and Landscape criteria contained within The Hedgerow Regulations 1997 to determine whether they qualified as 'Important Hedgerows'. This was achieved using a methodology in accordance with both the Regulations and DEFRA guidance. It should be noted that hedgerows may also qualify as Important under the Archaeology and History criteria of the Hedgerow Regulations 1997 Act, which is beyond the scope of this assessment.

#### **Invasive Plants, Notifiable Weed Species and Other Notable Flora**

- 5.10 Consideration was given as to the presence of invasive species listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) (WCA 1981)<sup>5</sup> and the presence of any notable weeds including those covered under the Weed Act 1959<sup>6</sup> (where population is significant enough to be considered injurious).

#### **Preliminary Protected Species Assessment**

- 5.11 During the extended Phase 1 Habitat survey, observations, identification and signs of any species protected under the following list of Acts and Regulations (collectively referred to herein as 'Protected Species') were recorded:
- Schedule 1 of the Wildlife and Countryside Act 1981 (as amended);
  - The Protection of Badgers Act 1992; and
  - The Conservation of Habitats and Species Regulations 2017.
- 5.12 Consideration was also given to the existence and use of the site by other fauna listed as one or more of the following (collectively referred to herein as 'Notable Species'):
- Species of Principal Importance (SPI) for the conservation of biodiversity in England on the Natural Environment and Rural Communities (NERC) Act, Section 41 (S41)
  - Species listed on any Local Biodiversity Action Plan (LBAP) initiatives
  - Red Data Book (RDB) species.
- 5.13 The likely presence or absence of protected and notable species has been assessed by a number of factors including the availability or suitable habitat, connectivity, known species distribution, local records and an understanding of the ecology and habitats requirement of the individual species

<sup>5</sup> Act of Parliament, (1981). The Wildlife and Countryside Act 1981 (as amended), London: HMSO.

<sup>6</sup> Act of Parliament, (1959). The Weed Act 1959. London: HMSO.

assessed. Examples of the types of criteria for likely presence/absence used as part of this assessment are provided in table 1.

**Table 1: Criteria used for assessing likely presence/absence of protected/notable species.**

Likelihood of Presence	Example criteria
Negligible	Where one or more of the following is true for the site: it offers no suitable habitat; it is isolated from known areas of suitable habitats/species presence; displays no evidence of use by the species in question; it is outside of the known local/regional/national distribution for the species; and there are no desk study records are present during the data search.
Low	Where one or more of the following is true for the site: the habitats present are of poor to moderate suitability; it is limited or restricted connectivity to areas of suitable offsite habitat or areas with known presence; it is in a location where the species distribution is known to be sparse at a local or regional scale; the desk study indicates the presence of the species in the locality in small to moderate numbers.
Moderate	Where one or more of the following is true for the site: the habitats present are of moderate to high suitability; it is clearly connected to suitable offsite habitat offsite habitat or areas with known presence; it is in a location where the species is known to be well distributed; the desk study indicates the presence of the species in the locality in moderate to good numbers.
High	Where one or more of the following is true for the site: the habitats present are of optimal suitability; it is adjacent to areas of suitable offsite habitat offsite habitat or areas with known presence; it is in a location where the species is known to be well distributed; there are field signs evidencing that a species has been present on the site; the desk study indicates the presence of the species has been historically present on or within the immediate vicinity of the site.
Present	The species was observed using the site during the extended phase 1 habitat survey or, where appropriate for certain species, field signs indicate the regular use of the site i.e. the presence of a badger sett.

5.14 In addition, carried out during the extended phase 1 habitat survey, with details of survey methodologies provided in Appendix B:

- Ground based assessment of trees following methodologies provided in *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (J., Collins (Bat Conservation Trust), 2016)
- Presence/absence surveys for badger following methodologies outlined by Harris, Creswell and Jefferies (1991)<sup>7</sup>.

5.15 During this initial assessment, suitable habitat for a range of protected/notable species were identified for which potential impacts of the proposals could be anticipated and further survey has been recommended as detailed in this report.

### **Survey Conditions and Personnel**

5.16 The phase 1 habitat survey was undertaken by Associate Ecologists Adam Day and John Mellor who are experienced in botanical survey, having achieved a level 4 on the Botanical Society of Britain and Ireland's (BSBI) Field Identification Skills Competency (FISC), equivalent to tutor level

<sup>7</sup> Harris, S., Creswell, P. and Jefferies, D., (1991). (Report) Surveying Badgers. The Mammal. Society, Bristol.

identification skills. The survey was undertaken during clear, bright weather conditions with no cloud cover, rain or wind (0 on the Beaufort Scale) on the 17<sup>th</sup> November 2022.

### Limitations

- 5.17 This assessment aims to provide baseline ecological data for the site and as such presents an overview of the habitats and features present. Due to the transient and complex nature of ecosystems, no investigation can provide a complete representation or prediction of the natural environment present, however every effort has been made to ensure an accurate description of the site in presented following best practice guidance, experience and professional judgement.
- 5.18 Whilst the timing of the phase 1 survey was outside of the guideline flora survey period, given the context of the sites habitats and their known biodiversity value, this was not considered to be a constraint. Further botanical survey would be recommended if potential for notable plants or habitats was raised during the initial walkover survey.
- 5.19 The extended phase 1 habitat survey took into consideration the presence of invasive non-native flora species, however this survey did not constitute a full survey for the presence of this group which would come with its own survey requirements.
- 5.20 The phase 1 habitat map (Figure 2) has been reproduced from detailed field notes and informed by aerial imagery, OS mapping and site maps provided by the client. The accuracy of this figure is therefore ultimately guided by the accuracy of these sources and can only be relied upon to a certain degree of resolution.
- 5.21 Data provided by third party sources collated during the desktop study is generally made up from a wide range of sources including (but not limited to) those submitted by ecological consultancies, wildlife conservation organisations and Volunteers. As such, this data is typically focused on areas of known nature conservation, is reliant upon formal surveys having been undertaken within an area or the presence of an expert within the locality (particularly for invertebrate records) and as such this data can never be fully relied upon as a complete ecological dataset for any given area. Rather, this data is used as a guide to likely presence of notable ecological features and can never be relied upon for likely absence.
- 5.22 No other limitations specific to this survey influenced this assessment.

## 6.0 RESULTS

### Desk Study

#### Designated Sites

##### Statutory Designated Sites

- 6.1 There were no sites of international importance located within 10km of the Site boundary and only one site of national or regional importance located within 5km of the site boundary, this was East Aberthaw Coast SSSI located approximately 2.6km southeast of the Site (see *Figure 1*). This site was designated for the range of habitats that makes it one of the richest coastal wildlife sites in the county. Rocky and sandy shore, shingle spits, saltmarsh, relict sand dunes and Liassic limestone cliffs all support species of plants and animals that are of a limited distribution in the county.
- 6.2 The potential for proposals to lead to an effect on this designated site is considered minimal, given the Site boundary's distance from the SSSI, however consultation with NRW will be undertaken to assess potential impacts on SSSI site.

##### Non-Statutory Designated Sites

- 6.3 There were four non-statutory sites of nature conservation importance within the 1km search area. The closest was the National Resources Wales Coastal Saltmarshes Priority Area, 423m south at its closest point and is designated for its intertidal saltmarsh area of fine sediment providing extremely important coastal habitats, supporting specialist plant communities and providing habitat for a variety of birds, fish, small mammals, and terrestrial and marine invertebrates. The next closest were the areas of Restored Ancient Woodland approximately 450m to the south of the Site and 640m northeast of the Site boundary. The next closest was East Orchard Wood / Wildlife Site SINC, a stretch of ancient semi-naturalised woodland and restored ancient woodland located 0.68m north east of the Site boundary (see *Figure 2*).
- 6.4 Given that the site is primarily composed of improved grassland, it offers very limited potential for the protected and specialist flora and fauna associated with the local non-statutory Designated sites and as such no effects are anticipated on the integrity of the four non-statutory sites identified within 1km of the Site boundary.
- 6.5 No other non-statutory designated statutory sites of nature conservation importance were located within the 1km search area.

#### Protected/Notable Species

- 6.6 A number of species records were returned from the SEWBReC as summarised in *Table 2*.

**Table 1. Protected Species within 1km**

Species	Relevant National Legislation	Approximate Location Relative to Site Boundary
<b>Mammals (Bats)</b>		
Serotine <i>Eptesicus serotinus</i>	Hab Reg Sch2, WCA Sch5, NERC S41	One record, 76m south.
Whiskered Bat <i>Myotis mystacinus</i>	Hab Reg Sch2, WCA Sch5, NERC S41	Closest record, 76m south.
Natterer's Bat <i>Myotis nattereri</i>	Hab Reg Sch2, WCA Sch5, NERC S41	Closest record, 234m south.

Myotis Species <i>Myotis sp.</i>	Hab Reg Sch2, WCA Sch5, NERC S41	Closest record, 76m south.
Noctule <i>Nyctalus noctula</i>	Hab Reg Sch2, WCA Sch5, NERC S41	Closest record, 76m south.
Common Pipistrelle <i>Pipistrellus pipistrellus</i>	Hab Reg Sch2, WCA Sch5, NERC S41	Closest record, 76m south.
Soprano Pipistrelle <i>Pipistrellus pygmaeus</i>	Hab Reg Sch2, WCA Sch5, NERC S41	Closest record, 76m south.
Pipistrelle species <i>Pipistrellus sp.</i>	Hab Reg Sch2, WCA Sch5, NERC S41	Closest record, 76m south.
Brown Long-eared Bat <i>Plecotus auritus</i>	Hab Reg Sch2, WCA Sch5, NERC S41	Closest record, 234m south.
Long-eared Bat Species <i>Plecotus sp.</i>	Hab Reg Sch2, WCA Sch5, NERC S41	Closest record, 76m south.
Lesser Horseshoe <i>Rhinolophus hipposideros</i>	Hab Reg Sch2, WCA Sch5, NERC S41	Closest record, 76m south.
<b>Mammals (Excluding Bats)</b>		
Eurasian Otter <i>Lutra lutra</i>	EPS, HDir, WCA Sch 5, S7, Bern, CITES	One record, 439m north.
Hazel Dormouse <i>Muscardinus avellanarius</i>	EPS, HDir, WCA Sch5, S7, Bern, RDB2 (UK), LBAP	One record, 339m north.
<b>Birds</b>		
Hen Harrier <i>Circus cyaneus</i>	WCA Sch1	Closest record, 598m south.
Merlin <i>Falco columbarius</i>	WCA Sch1	Closest record, 76m south.
Peregrine <i>Falco peregrinus</i>	WCA Sch 1, Bern, CITES	Closest record, 76m south.
Hobby <i>Falco subbuteo</i>	WCA Sch1	Closest record, 76m south.
Mediterranean Gull <i>Ichthyophaga melanocephalus</i>	WCA Sch1	Closest record, 598m south.
Red Kite <i>Milvus milvus</i>	BDir1, WCA Sch 1.1, WCA Sch 9, CITES	Closest record, 412m northeast.
Whimbrel <i>Numenius phaeopus</i>	WCA Sch1	Closest record, 76m south.
Black Redstart <i>Phoenicurus ochruros</i>	WCA Sch1, Bern	Closest record, 598m south.
Redwing <i>Turdus iliacus</i>	WCA Sch1	Closest record, 598m south.
Fieldfare <i>Turdus pilaris</i>	WCA Sch1	Closest record, 76m south.
Western Barn Owl <i>Tyto alba</i>	WCA Sch1	Closest record, 135m south.
<b>Amphibians and Reptiles</b>		
Palmate Newt <i>Lissotriton helveticus</i>	WCA Sch5	Closest record, 280m west.
Smooth Newt <i>Lissotriton vulgaris</i>	WCA Sch5	Closest record, 280m west.
Great Crested Newt <i>Triturus cristatus</i>	EPS, WCA Sch5	Closest record, 280m west..
<b>Invasive Non-native Species</b>		
Three-cornered Garlic <i>Allium triquetrum</i>	WCA9, INNS	Closest record, 280m west.
Montbretia <i>Crocodymia pottsii x aurea</i>	WCA9, INNS	One record, 990m.
<b>Key: NERC S41 – Natural Environment &amp; Rural Communities Act 2006 Section 41, Hab reg Sch2 – Conservation of Habitats &amp; Species Regulations 2017 (as amended) Schedule 2, WCA – Wildlife &amp; Countryside Act 1981, INNS – Invasive non-native Species Inventory.</b>		

- 6.7 Owing to the site location close to the NRW Coastal Saltmarshes Priority Area, this resulted in numerous records for birds species were returned from SEWBReC. This included a spectrum of common and widespread species through to rare vagrants.

## Extended Phase 1 Habitat Survey

- 6.8 The locations of the habitats described below are illustrated in Figure 3: Phase 1 Habitat Plan. A botanical species list is provided in Appendix C and Site photographs are provided in Appendix D.

### Improved grassland

- 6.9 The majority of the site area is currently managed as an improved grassland sward for grazing livestock. Perennial ryegrass *Lolium perenne* dominates the sward, with annual meadow-grass *Poa annua* more frequent in gateways and other more frequently disturbed areas. Sweet vernal grass Creeping buttercup *Ranunculus repens* and creeping thistle *Cirsium arvense* are locally frequent.

### Dense scrub (TN4)

- 6.10 A small area of dense scrub is present at the southern end of H7. This is where the hedgerow has outgrown on the railway bridge embankment forming a wider area of scrub from the hedgerow. Hawthorn *Crataegus monogyna* and blackthorn *Prunus spinosus* are dominant, with occasional English elm *Ulmus procera* and field maple *Acer campestre*. The ground flora is limited, with occasional hart's tongue fern *Asplenium scolopendrium* on mostly bare earth.

### Scattered scrub

- 6.11 Areas of scattered scrub are found adjacent to the southern boundary of the site along the railway boundary. These are remnant hedgerows now defunct that have become outgrown by bramble *Rubus fruticosus* agg. and clematis *Clematis vitalba*, with the occasional stretch of hawthorn and English elm present. This habitat is separated from the site by a barbed wire fence. Scattered scrub is also present to the west of H16, where a small number of hawthorn from scattered scrub.

### Hedgerows

- 6.12 24 hedgerows, three of which are defunct were present on site. The hedgerows form all field boundaries with the exception of those along the railway line which are now defunct. With the exception of the hedgerows along the western and northern boundaries of the site (H7, H6, H5, H12, H19, H15 and H16), the hedgerows are very gappy and heavily poached by livestock. Whilst H7, H6, H5, H12, H19, H15 and H16 are more dense, these also rely on fencing to be livestock proof and are poorly managed from an ecological perspective. All hedgerows are present on banks.
- 6.13 All Hedgerows were typically dominated by hawthorn and blackthorn, with frequent English elm and field maple and occasional hazel *Corylus avellana* and elder *Sambucus nigra*. Climbing woody species present included bramble, clematis and dog rose *Rosa canina*.
- 6.14 All hedgerows were considered to be habitats of principal importance (NERC) as they each were comprised of greater than 80% native species, and under the Hedgerow Evaluation and Grading System (HEGS) H5, H6, H8 and H19 were identified as being of conservation priority. None of the hedgerow met the criteria for being classified as important under the hedgerow regulations (REGS) assessment. Table 3 provides a summary of the hedgerow survey results.

Table 3: Hedgerow Evaluation

Hedgerow ref.	Species composition <sup>8</sup>	Average no. species per 30m section	HEGS Score	Habitat of Principal Importance under NERC Act (2006)	Important under wildlife and landscape criteria of Hedgerow REGS
H1	<i>Sn, Cm, Rn, Rf, Rc</i>	4	3	Yes	No
H1	<i>Cm, Ps, Sn, Up, Ia</i>	2	3	Yes	No
H2	<i>Ps, Cm, Sn</i>	2.5	3	Yes	No
H3	<i>Ps, Cm, Sn, Fe, Up</i>	2.6	3+	Yes	No
H4	<i>Up, Cm, Ca, Ps, Fe</i>	2.6	4	Yes	No
H5	<i>Cm, Ps, Up, Ac, Sn</i>	2.6	-2	Yes	No
H6	<i>Up, Fe, Cm, Ac, Ps</i>	3	-2	Yes	No
H7	<i>Up, Cm, Sn, Ca, Ps, Cs</i>	2.75	3	Yes	No
H8	<i>Up, Ps, Cm, Rc, Ca, Ac, Sn</i>	5.6	-2	Yes	No
H10	<i>Fe, Cm, Ps, Cv,</i>	2.6	3+	Yes	No
H11	<i>Cm, Up, Sn, Ps, Rc,</i>	2.6	-3	Yes	No
H12	<i>Cs, Cm, Up, Sn</i>	4	3	Yes	No
H13	<i>Cm, Rc, Ps, Up, Sn</i>	2.3	3	Yes	No
H14	<i>Cm, Ps</i>	2	-3	Yes	No
H15	<i>Cm, Ps</i>	2	-3	Yes	No
H16	<i>Cm, Ps</i>	2	-3	Yes	No
H17	Defunct				
H18	<i>Cm, Sn, Ps</i>	2	3	Yes	No
H19	<i>Cm, Ps, Up, Ac, Ca</i>	3.6	-2	Yes	No
H20	Defunct				
H21	Defunct				
H22	<i>Cm, Ps</i>	2	4+	Yes	No
H23	<i>Cm, Rc, Ps, Sn, Ac</i>	2.75	3+	Yes	No
H24	<i>Cm, Ps, Up, Sn, Rc</i>	2.25	-3	Yes	No

Cm *Crataegus monogyna* Hawthorn, Sn *Sambucus nigra* Elder, Ps *Prunus spinosa* Blackthorn, Fe *Fraxinus excelsior* Ash, Rc *Rosa canina* Dog rose, Ia *Ilex aquifolium* Holly, Ca *Corylus avellana* Hazel, Up *Ulmus procera* English Elm, Ac *Acer campestre* Field Maple, Cs *Cornus sanguinea* Dogwood, Cv *Clematis vitalba* Traveller's joy.

## Trees

- 6.15 Only four mature trees are present within the site boundary. Three are all ash and are located around the boundary of the farmhouse garden in the northwest corner of area A. The fourth is a holm oak *Quercus ilex* and is located midway along the northern boundary of Area B. Other young

and semi-mature trees are present but are restricted to along the railway line and B4265. A narrow strip of ash woodland is present just off site behind H19.

### Buildings

- 6.16 Two World War two pillboxes are present on site, one at the northern end of H24 and the other at the southern end of H13. These were assessed for their potential to support roosting bats.

### Target Notes

- 6.17 Several target notes were taken during the Phase 1 Habitat survey as summarised in table 3.

**Table 4: Target Notes**

Target Note Number	Description
TN1	Bare ground through heavy livestock poaching
TN2	Mature ash trees with negligible bat potential
TN3	Building- pillbox with negligible bat potential
TN4	Outgrown section of H7 on railway bridge embankment forming scrub.

### Preliminary Protected Species Assessment

- 6.18 The potential for the site to support protected and notable surveys has been assessed based on the desktop study results, the habitats present on site and their connectivity to suitable offsite habitats. Based on an evaluation of these factors, the habitats present on site are considered to have potential to support to the following protected/notable species as discussed in table 5:
- Bats
  - Badgers
  - Dormice
  - Great Crested Newts
  - Reptiles
  - Hedgehog
  - Nesting Birds
- 6.19 Whilst records of otter were returned within the desktop search, no suitable habitat for this species is present on site or within the near vicinity and therefore this species is scoped out of further assessment.



Table 5: Preliminary Protected/Notable Species Assessment

Species	Relevant Legislation	Site Assessment	Likelihood of Presence
<b>Bats</b>	WCA, CHSR	<p>The hedgerows and trees provide suitable foraging and commuting habitats for bats, and the improved pasture that is grazed year round could also provide an important foraging resource for species including greater horseshoe.</p> <p>Multiple records for at least 9 bat species were returned from the consultation request within 2km of the site and this included lesser horseshoe, an Annex II species. No designated sites for bats are present within 10km of the site.</p> <p>No trees onsite supporting features suitable for roosting bats and all were assigned negligible potential. Both pillboxes were surveyed and no evidence of roosting bats was found. Whilst these features could support bats on occasion, they have been assigned low potential with a note for continuous monitoring throughout the application process.</p> <p>Bats are a common species group that will range far for foraging and it is therefore considered highly likely that common and widespread bat species will be using the site as commuting and/or foraging habitat. Rarer species including lesser horseshoe which have been recorded nearby are also likely to use the site.</p>	<b>High</b>
<b>Badgers</b>	PBA	Onsite habitats supported a range of suitable habitats for badgers with the pasture field providing good foraging habitats alongside areas of dense scrub and woodland. No evidence of badger was recorded during the extended walkover survey, however the desktop study indicates the presence of this species within the locality (precise location omitted from this report for confidentiality).	<b>Low</b>
<b>Dormice</b>	WCA, CHSR	<p>Records of dormice were returned within 1km of the site. Habitat to support dormice at the site includes the hedgerows and scrub.</p> <p>Whilst the habitats are not of high value to dormice owing to their poor management, the presence of dormice cannot be ruled out without further survey.</p>	<b>Moderate</b>
<b>Great Crested Newt</b>	CHSR, WCA	<p>Three records of GCN were returned within 2km of the site and were 286m west of the site in the nearby 1km grid square. These appeared to relate to a pond only visible on aerial imagery to the south of the St Athan helicopter base which is approximately 490m west of the site as no other waterbodies are visibly present within 500m.</p> <p>No waterbodies are present on site. Terrestrial habitat on the site including hedgerows could provide movement for GCN throughout and the site is connected to the nearby population by the railway line.</p> <p>Due to the lack of waterbodies on site or surrounding its boundaries, and the distance from potential breeding ponds, it is unlikely that GCN utilise habitats within the site.</p>	<b>Low</b>
<b>Reptiles</b>	WCA	<p>The habitats on site were generally considered to be of negligible value to reptiles due to the high grazing pressure on all potential features.</p> <p>Hedge banks along H7 and H6 and scrub along the railway lines may support reptiles, as these areas are more outgrown.</p>	<b>Moderate</b>
<b>Hedgehog</b>	NERC S.41	On site habitats provide some foraging opportunities for hedgehog, with commuting habitat provide by the network of hedgerows, woodland and dense scrub.	<b>Moderate</b>

Species	Relevant Legislation	Site Assessment	Likelihood of Presence
		No hedgehog records were noted in the desk study.	
<b>Nesting Birds</b>	WCA	During the extended phase 1 habitat a range of passerine, raptor and gull species were recorded. Notable ground nesting bird species and those likely to nest in site habitats such as hedgerows and scrub including those listed on the BOCC red and amber lists were sighted. These were dunnoek <i>Prunella modularis</i> , meadow pipit <i>Anthus pratensis</i> , skylark <i>Alauda arvensis</i> and sparrowhawk <i>Accipiter nisus</i> .	<b>High</b>

## 7.0 DISCUSSION AND RECOMMENDATIONS

- 7.1 The results of this preliminary ecological appraisal of the Site have been assessed against the initial proposals for the site which are currently outlined residential development.
- 7.2 The proposals are expected to result in the loss of all improved grassland and sections of some of the hedgerows, as well as a small area of scattered hawthorn scrub. The proposals currently retain all important HEGS hedgerows and provide significant Green Infrastructure (GI) buffers around the site periphery and through retained connective corridors north to south and west to east through the site.
- 7.3 Table 6 provides an overview of the potential ecological constraints associated with the Site along with recommendations for avoidance, protection, mitigation and/or compensation measures that can be designed into the scheme along with as appropriate. The following ecological features identified during this PEA are not considered to pose a constraint to the proposals and are therefore not discussed in table 6:
- **Habitats of low conservation importance** - The improved grassland habitat and scattered hawthorn scrub habitats are considered to be of limited nature conservation value in their own right, but do have the potential to support other protected species as described in table 6.
  - **Badgers** – As demonstrated in table 5, badgers were considered extremely unlikely to be present on site and are therefore not considered to be a constraint to the proposals.
  - **Great Crested Newts** – Whilst GCN records are present within 500m of the site, no waterbodies are present on the site or in the habitats adjacent to the site. It is therefore unlikely that GCN would move through the site. It is however recommended that NRW are consulted on this so that if further assessment is required, this can be included in future survey work.
- 7.4 Following a preliminary assessment of the Sites biodiversity value and the nearby sensitive receptors in the context of the proposals, there unlikely to be any ecology constraints that preclude the development of the Land West of St Athan site, with appropriate strategies for mitigation and enhancements implemented.

Table 6: Potential Ecological Constraints and Recommended Mitigation/Further Survey

Ecological Feature	Potential Constraints	Recommended Mitigation/Further Work	Recommended timings
Designated Sites	There were no sites of international importance located within 10km of the Site boundary and only one site of national or regional importance located within 5km of the site boundary, this was East Aberthaw Coast SSSI.	Consultation with NRW will be undertaken to assess potential impacts on SSSI site, however given the site is located 2.6km from the Site boundary it is anticipated the proposals will not lead to a likely significant effect on the integrity of this site.	Pre-application
Hedgerows	Sections of H2, H3, H11, H23, H8 and H13 are likely to be lost to the proposals. These hedgerow sections are a habitat of principal importance under NERC S.41.	Suitable compensation for the loss of these sections should be provided through new hedgerow creation and enhancement of existing hedgerows where possible. All hedgerows should be placed into a long term management plan	N/A
Bats	The onsite habitats including pasture grassland with associated hedgerows and scrub likely provide foraging and commuting habitat for a range of common and widespread bat species and rarer species including lesser horseshoe.	Further survey should be undertaken in order to determine whether onsite habitat form any important commuting and/or foraging resources for bats. Owing to the overall limited suitability of habitats observed, the Site was considered to be of moderate suitability for foraging/commuting bats and it is consequently recommended that a monthly bat survey effort is completed to inform the proposals and to determine the usage of the Site but bats in the locality. This should include bat activity transect surveys supplement with automated bat detector surveys. It is also recommended that the proposals are guided by a Construction and Environment Management Plan that is guided by the results of bat surveys and includes a sensitive lighting strategy in accordance with best practice guidance. No trees suitable to support roosting bats are present. Both pillboxes had no evidence of roosting bats, although were assigned low potential because they could support a low status occasional roost in the future. These will be monitored regularly but require no standalone nocturnal surveys.	Monthly activity surveys between April and October with one dusk and dawn transect in peak months.
Hedgehog	Habitats onsite provided some suitability for hedgehog, particularly within hedgerow and scrub habitats. Proposals could lead to a loss of temporary foraging habitat used by this species and could lead to hedgehogs becoming trapped and injured.	Any steep excavations should contain mammal ladders where they are left overnight with not shallower shallow areas to provide escape routes and prevent hedgehogs becoming trapped within the working areas. These should comprise planks of wood set at an angle that would allow hedgehogs to climb up them This would be specified in a CEMP document.	N/A

Ecological Feature	Potential Constraints	Recommended Mitigation/Further Work	Recommended timings
Nesting Birds	The site provides potential nesting opportunities for a range of common and widespread bird species and notable declining and species including skylark although the suitability of pasture for nesting is likely to be low due to its intensive management.	<p>Due to the presence of a number of notable and/or declining species recorded on site, it is recommended that further survey is undertaken to inform the proposals. These should include three breeding bird surveys, one each month from April to June.</p> <p>As a result of the special protection afforded to breeding birds, in the event that any removal of woody vegetation (including trees and scrub) is necessary, it is recommended that this takes place outside of the bird breeding season to minimise the risk of disturbance to breeding birds. If this is not possible, such vegetation should be checked prior to removal by a suitably experienced ecologist. If active nests are found, vegetation should be left untouched and suitably buffered from works until all birds have fledged. Specific ecological advice should be sought prior to undertaking the clearance. Where a nest of a WCA Sch.1 species is identified on site or adjacent to the site, this should be further protected with a suitable buffer to prevent disturbance.</p>	3 Breeding Bird Surveys April to June
Reptiles	While the majority of the Site was dominated by pasture grassland of limited suitability for reptiles, areas of suitable habitat were noted with longer grassland present along some hedgerow bases and scrub along the railway line. The proposals have the potential to injure or kill reptiles where they are present on site, particularly during vegetation clearance. Furthermore, the proposals could lead to a loss of habitats used by this group.	Presence/absence surveys should be undertaken to determine whether any reptile species are present on site, with a population estimate calculated where presence is confirmed. This should be undertaken through the spring/summer during suitable weather conditions and should comprise a minimum of 7 surveys.	April-September
Dormice	Dormice are present within 1km of the site and the site provides suitable habitats in the form of hedgerows and scrub.	Areas of dormice habitat will be lost from the proposals where hedgerows are removed to facilitate developed areas and access points. To adequately assess impacts on dormice, monthly tube surveys should be undertaken between April and October. If dormice are present, then a dormouse mitigation licence may be required from NRW to facilitate any hedgerow loss. It is likely that significant mitigation habitat for this species would need to be implemented within the scheme if they are present.	Monthly surveys between April and October

## Habitat Enhancements

7.5 The proposals currently include areas of GI along boundary features and within central areas of the site. GI should include habitat enhancements (which will also benefit protected species) such as those included below.

- The creation of species rich meadows;
- Planting out of existing hedgerows and inclusion within a long term management plan;
- Planting of areas of native scrub connected to hedgerows and other green corridors;
- Wetland planting around proposed SuDS features;
- The creation of ponds and other seasonally wet features.

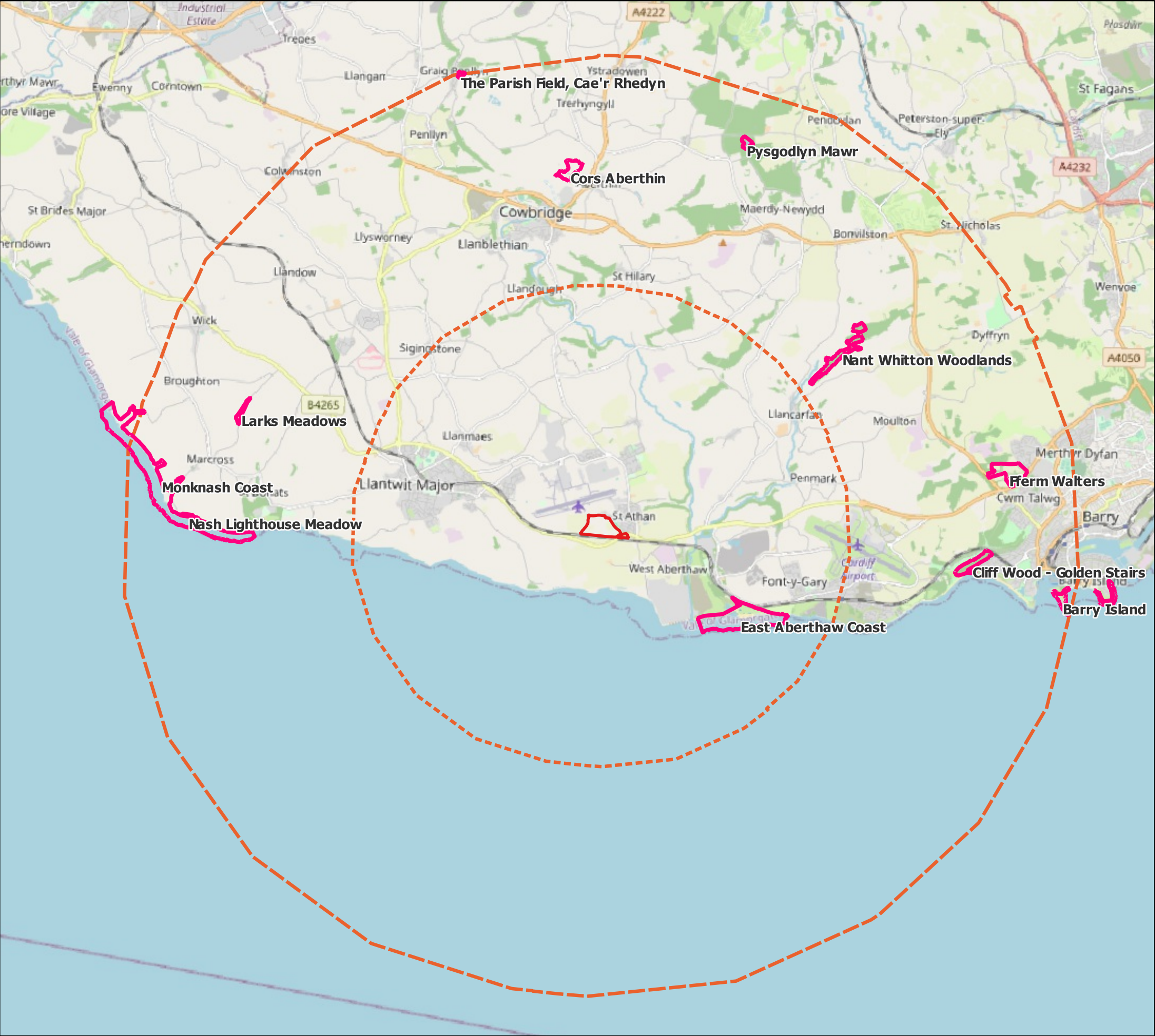
## Faunal Enhancements

7.6 Table 7 offers a number of recommendations that could be easily incorporated within the scheme.

**Table 7: Recommended Faunal Enhancement**

Target Species/ Groups	Enhancement Opportunities	Recommended Specifications
Bats	There should be one bat box installed for every two houses built on site.	Schwegler bat tube or similar
Birds	There should be one integrated bird nesting feature for every house on site.	Integrated bird nesting features on buildings should be aimed at a mix of species but focus on declining species including house sparrow, house martin and swift.
Amphibians and Reptiles	The provision of artificial hibernacula and refugia would provide an additional resource for amphibians. Any new ponds created should be designed to hold some degree of water throughout the year where feasible and should be planted with a diverse range of native species.	These could include log or rubble piles, positioned within close proximity to the new ponds or in suitable grassland Pond planting should include a native species rich marginal vegetation seed mix that grades into species pond-edge or wet grassland seed-mix
Invertebrates	Invertebrates would also benefit from the inclusion of log piles and hibernacula designed for amphibians/reptiles but would also benefit from specific features such as insect houses.	Insect houses are readily available from online retailer, but larger features that are designed for a range of species should be used where possible, such as the 'Minibeast HQ.'





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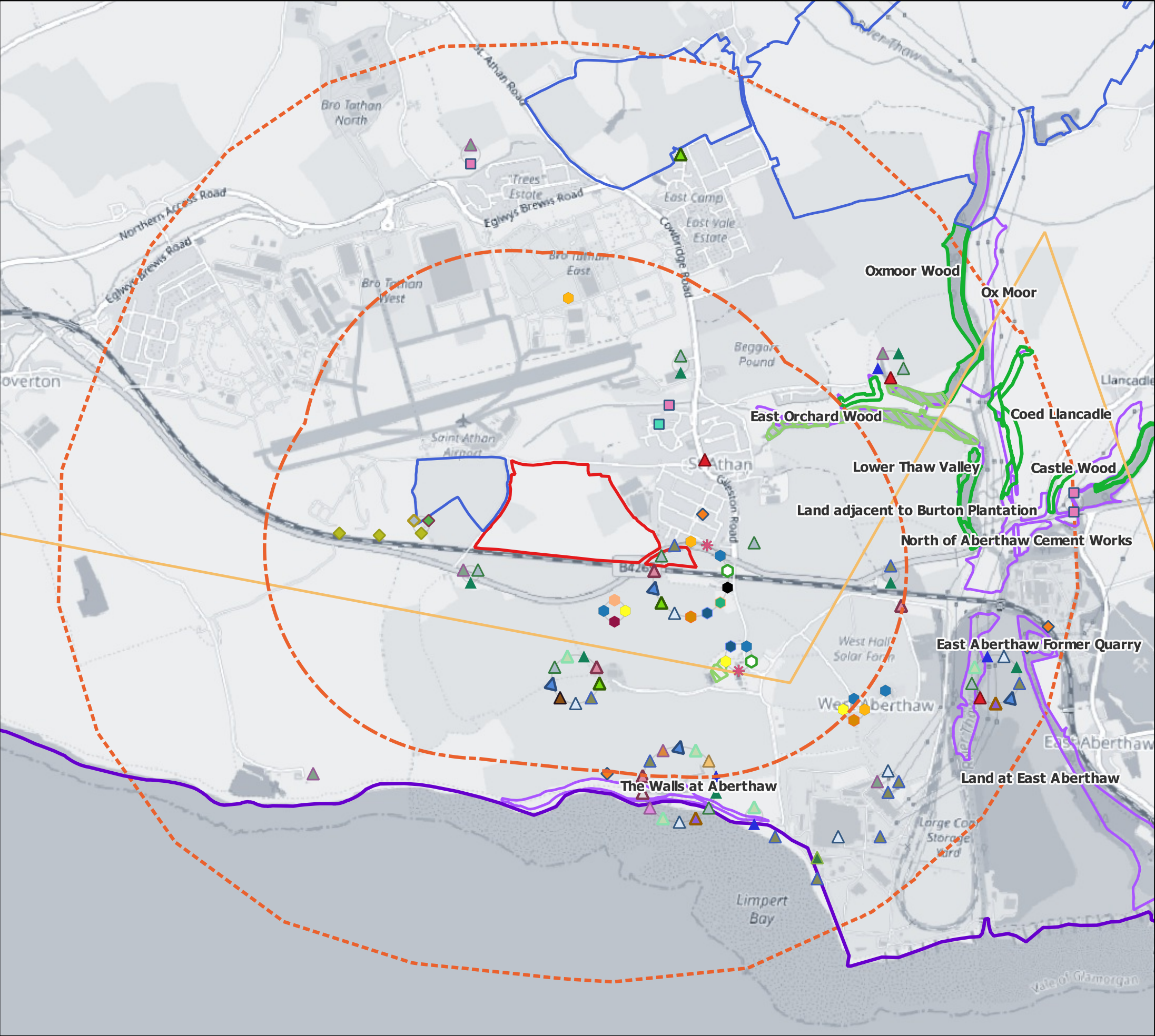
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## Key

- Site Boundary
- 5 km search area
- 10 km search area
- Sites of Special Scientific Interest SSSI







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## Key

- Site Boundary
- 1 km search area
- 2 km search area
- Non-statutory Designated Sites**
  - Ancient Semi Natural Woodland
  - B-Lines
  - NRW Priority Area (Coastal Saltmarsh)
  - NRW Priority Area (Enclosed Farmland)
  - Restored Ancient Woodland
  - Site
  - Wildlife Site / SINC (Adopted)
- Protected Species**
  - Brown Long-eared Bat
  - Common Pipistrelle
  - Peregrine
  - Soprano Pipistrelle
  - Lesser Horseshoe Bat
  - Myotis Bat species
  - Serotine
  - Red Kite
  - Redwing
  - Black Redstart
  - Barn Owl
  - Common Scoter
  - Cetti's Warbler
  - Dartford Warbler
  - Hobby
  - Merlin
  - Natterer's Bat
  - Pipistrelle Bat sp
  - Whiskered Bat
  - Eurasian Otter
  - Snow Bunting
  - Fieldfare
  - Great Crested Newt
  - Hazel Dormouse
  - Hen Harrier
  - Kingfisher
  - Little Gull
  - Long-eared Bat sp
  - Mediterranean Gull
  - Noctule Bat
  - Palmate Newt
  - Red-throated Diver
  - Slow-worm
  - Smooth Newt
  - Whimbrel

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Hallam Land Management

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Land West of St Athan / Sain Tathan, Wales

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**PROTECTED SPECIES AND NON-STATUTORY DESIGNATED SITES PLAN**

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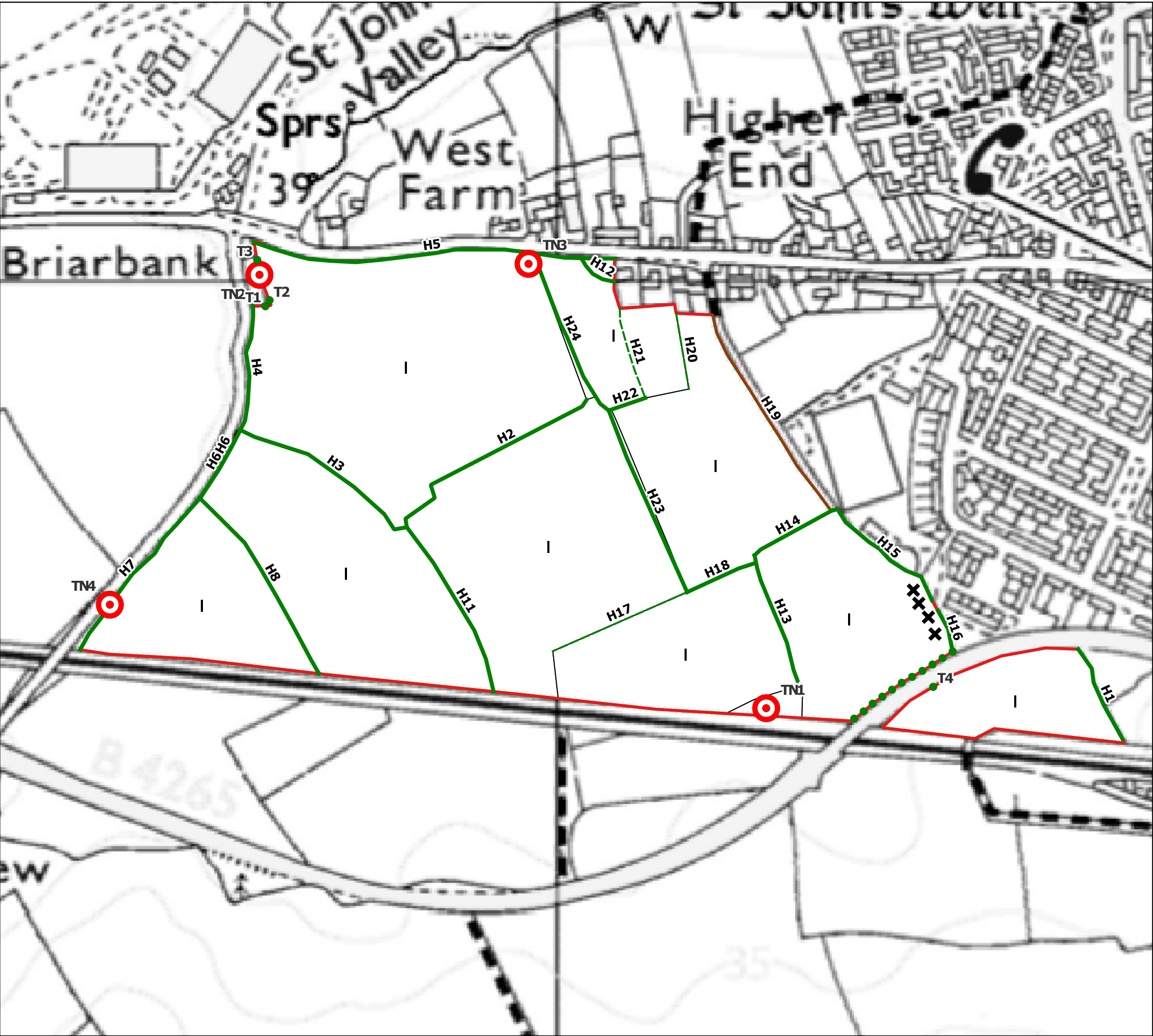
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## Key

- Site Boundary
- Scrub - scattered
- Target note
- Broadleaved tree
- Broadleaved trees
- Intact hedge - species-poor
- Hedge with trees - native species-rich
- Defunct hedge - species-poor
- Scrub - scattered line
- Improved grassland



## **APPENDIX A – NATURE CONSERVATION LEGISLATION**

## **The Conservation of Habitats and Species Regulations (“The Habitats Regulations”) (Amendment) 2012**

### European Protected Sites

The Habitats Regulations ratifies into UK law the “Habitats Directive” (92/43/EEC) and the “Birds Directive” (79/409/EEC). It places a duty on the Secretary of State to propose a list of sites which are important for species listed in Annex I and II of the Habitats Directive respectively to the European Commission. Once the Commission and EU Member States have agreed that the sites submitted are worthy of designation, they are identified as Sites of Community Importance (SCIs). The EU Member States must then designate these sites as Special Areas of Conservation (SACs) within six years.

The Regulations require the compilation and maintenance of a register of European sites to include SACs as well as Special Protection Areas (SPAs) designated for birds and sites designated as internationally important wetlands under the Ramsar Convention known as “Ramsar Sites”. These three designations form a collective Europe wide network of internationally protected sites known as Natura 2000. All European sites are also designated under UK law as Sites of Special Scientific Interest (SSSIs; please see below).

### Habitats Regulation Assessment

There is a requirement under EU law that Member States’ take measures to reach and maintain European Protected Sites’ at Favourable Conservation Status (FCS). An Appropriate Assessment is required for plans or projects that may potentially damage a European Protected Site. This is based on an assessment against a given European Protected Site’s Conservation Objectives. The process is commonly known as a Habitats Regulations Assessment (HRA).

The HRA must be conducted by, or on behalf of, the Competent Authority. The HRA process assesses plans or projects alone or in combination. It involves a four stage approach as follows:

- Stage One: Screening - also known as the Test of Likely Significant Effect (TOLSE). If the Competent Authority cannot screen out a *likely significant effect*, an Appropriate Assessment is required.
- Stage Two: Appropriate Assessment - the Competent Authority will only agree to plans or projects that will not affect the *integrity* of a European site also known as the “Integrity Test”.
- Stage Three: Alternative Solutions - assesses any alternative solutions of a potentially damaging plan or project that failed the Integrity Test, and if it is determined there are no alternative solutions, the project cannot be agreed to and it will either need to be changed or refused.
- Stage Four: The final stage may allow a plan or project to proceed if after failing stage three if it is for Imperative Reasons of Overriding Public Interest, and only if suitable compensatory measures are secured.

Any plan or project that may have a potentially damaging effect on a transient species or the habitat on which it relies (for example bats or birds), that is both a Qualifying Features of a

European Protected Site and considered *functionally linked* with a European Protected Site, are required under law to be considered as part of any HRA process.

### European Protected Species

The Habitats Regulations includes a list of animals and plant species taken from the Annex IV of the Habitats Directive that have a natural range which includes any area in Great Britain. These are collectively known as European Protected Species (EPS). The regulations make it an offence to deliberately capture, kill, disturb, take or destroy eggs of, or damage or destroy a breeding or resting place of animals listed in Schedule 2 of the Regulations, and to pick, collect, cut, uproot or destroy wild plants listed in Schedule 5 of the Regulations. All listed EPS are shown in Table 1 below. The Regulations also protect these species alive or dead and parts thereof from various forms of possession and trade.

**Table 1: The Habitats Regulations Schedule 2 and Schedule 5 species**

Schedule 2 – European Protected Species of Animals		Schedule 5 – European Protected Species of Plants	
Common name	Scientific name	Common name	Scientific name
Horseshoe bats – all species	<i>Rhinolophidae</i>	Shore dock	<i>Rumex rupestris</i>
Bats – all species	<i>Vespertilionidae</i>	Killarney fern	<i>Trichomanes speciosum</i>
Large blue butterfly	<i>Maculinea arion</i>	Early gentian	<i>Gentianella anglica</i>
Wild cat	<i>Felis silvestris</i>	Lady's-slipper	<i>Cypripedium calceolus</i>
Dolphins, porpoises and whales – all species	<i>Cetacea</i>	Creeping marshwort	<i>Apium repens</i>
Hazel dormouse	<i>Muscardinus avellanarius</i>	Slender naiad	<i>Najas flexilis</i>
Pool frog	<i>Rana lessonae</i>	Fen orchid	<i>Liparis loeselii</i>
Sand lizard	<i>Lacerta agilis</i>	Floating-leaved water plantain	<i>Luronium natans</i>
Fisher's estuarine moth	<i>Gortyna borelii lunata</i>	Yellow marsh saxifrage	<i>Saxifraga hirculus</i>
Great crested newt	<i>Triturus cristatus</i>		
Otter	<i>Lutra lutra</i>		
Lesser Whirlpool Ram's-horn snail	<i>Anisus vorticulus</i>		
Smooth snake	<i>Coronella austriaca</i>		
Sturgeon	<i>Acipenser sturio</i>		
Natterjack toad	<i>Bufo calamita</i>		

Schedule 2 – European Protected Species of Animals		Schedule 5 – European Protected Species of Plants	
Marine turtles	<i>Caretta caretta</i> <i>Chelonia mydas</i> <i>Lepidochelys kempii</i> <i>Eretmochelys imbricata</i> <i>Dermochelys coriacea</i>		

These actions may be made lawful in certain circumstances through the granting of licences by the appropriate authority (Natural Resources Wales). Licences must only be granted after the appropriate authority is satisfied that no satisfactory alternatives are available. In most circumstances, licences are only applied for and granted following full planning permission.

In determining whether or not to grant a licence Natural Resources Wales must apply the requirements of The Conservation of Habitats and Species Regulations 2012 (amendment) and, in particular, the three derogation tests:

- Test 1: A licence can be granted for the purposes of “preserving public health or public safety or other imperative reasons of overriding public interest including those of a social or economic nature and beneficial consequences of primary importance for the environment”.
- Test 2: The appropriate authority shall not grant a licence unless they are satisfied “that there is no satisfactory alternative”.
- Test 3: The appropriate authority shall not grant a licence unless they are satisfied “that the action authorised will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range.

### **Wildlife and Countryside Act 1981 (as amended)**

The Wildlife and Countryside Act 1981 (WCA) (as amended) is the principal legislation providing protection for wildlife in the UK. It prescribes legislation for wild birds, other animals, wild plants and non-native species. In addition, it provides for the designation of Sites of Special Scientific Interest (SSSI) in Wales.

#### Wild birds

The Act makes it an offence (with exception to species listed in Schedule 2) to intentionally:

- kill, injure, or take any wild bird;
- take, damage or destroy the nest of any wild bird while that nest is in use or being built; or
- take or destroy an egg of any wild bird.

For birds listed on Schedule 1 of the Act, protection extends to offences relating to disturbance of these birds while at their nests or their dependent young.

#### Other animals

The WCA (as amended) makes it an offence to (subject to exceptions) intentionally or recklessly kill, injure or take wild animals listed on Schedule 5 of the Act. For some species, the protection extends to interference with places used for shelter or protection, or intentionally disturbing

animals occupying such places. These species are regarded as “fully protected” and as well as the EPS species listed above include the mammal species water vole *Arvicola terrestris*, pine marten *Martes martes* and red squirrel *Sciurus vulgaris* as well as selected others from a range of species groups including, fish, butterflies, hemipteran bugs, beetles, crickets, dragonflies, moths, spiders, crustaceans, sea-mats, molluscs, Annelid worms and sea anemones (and allies).

There are seven species on Schedule 5 of the Act that not fully protected but are still protected against killing and injuring these include the common reptile species slow worm *Anguis fragilis*, viviparous lizard *Lacerta vivipara*, grass snake *Natrix natrix* and adder *Vipera berus*.

The Act prohibits certain methods of killing, injuring, or taking wild animals, and numerous species are protected against sale only as well as other variations for example Atlantic stream (white-clawed) crayfish *Austropotamobius pallipes* are protected against taking and sale.

#### Vascular plants, bryophytes, lichens and fungi

With regards to native flora the Act makes it an offence to (subject to exceptions) intentionally pick, uproot or destroy any wild plant listed in Schedule 8. Similarly, the Act prevents the sale, offer or expose for sale, or possess (for the purposes of trade), any live or dead wild plant included in Schedule 8, or any part of, or anything derived from, such a plant.

#### Non-native species

The Act contains measures for preventing the establishment of non-native species which may be detrimental to native wildlife, prohibiting the release of animals and planting of plants listed in Schedule 9 in England and Wales.

#### Sites of Special Scientific Interest

The Act provides for the notification and confirmation of Sites of Special Scientific Interest (SSSIs). These sites can be identified for their flora, fauna, geological or physiological interest. In Wales, the power to confirm an SSSI lies with Natural Resources Wales.

Laws protecting areas designated as SSSIs are described in Sections 28 to 33 of Part 2 of the Wildlife and Countryside Act 1981 (as amended). SSSIs are the principle statutory designation of sites in the UK and offences are enforced through Natural Resources Wales. Offences include the following:

##### *SSSI owners and occupiers*

- carrying out, causing or allowing operations likely to damage an SSSI without Natural Resources Wales consent.
- failing to keep to a management notice.
- failing to let us know about a change in ownership or occupation of land in an SSSI.

##### *Public bodies*

- carrying out or authorising operations likely to damage an SSSI without meeting the requirements to notify Natural Resource Wales.
- failing to minimise any damage to an SSSI and if there is any damage, failing to restore it to its former state so far as is reasonably practical and possible.



*Any person*

- intentionally or recklessly damaging, destroying or disturbing any of the habitats or features of an SSSI.
- intentionally or recklessly damaging, destroying, obscuring or taking down a site notice put up on land within an SSSI.
- preventing a Natural Resources Wales officer lawfully accessing an SSSI.

### **Protection of Badgers Act 1992**

Badgers and their setts are protected under the Protection of Badgers Act 1992. This act is based on the need to protect badgers from persecution by baiting and deliberate harm or injury.

The act makes it an offence to:

- intentionally capture, kill or injure a badger;
- damage, destroy or block access to their setts;
- disturb badgers in setts;
- treat a badger cruelly;
- deliberately send or intentionally allow a dog into a sett; and
- bait or dig for badgers.

A sett is defined as:

*“Any structure or place that displays signs indicating current use by a badger”.*

### **Environment (Wales) Act 2016**

Section 6 of the Environment (Wales) Act 2016 imposes a duty on every public authority to maintain and enhance biodiversity in exercising its functions, and in so doing promote the resilience of ecosystems, so far as consistent with the proper exercise of those functions (S6 duty). Resilience of ecosystems is accounted by the following aspects; diversity between and within ecosystems; the connections between and within ecosystems; the scale of ecosystems; the condition of ecosystems (including their structure and functioning); and the adaptability of ecosystems.

Section 7 of the Environment (Wales) Act 2016 requires the Welsh Ministers to publish a list of habitats and species that are of principal importance for the conservation and enhancement of biodiversity in Wales. The list (including 55 habitats and 560 species) has been drawn up in consultation with Natural Resource Wales and draws upon the UK BAP List of Priority Species and Habitats. The section 7 list is used to guide decision-makers such as public bodies, including local and regional authorities, in implementing their duty under section 6 of the Environment (Wales) Act 2016.

## **Planning Policy Wales (2018) (PPW)**

The Planning Policy Wales (2018) sets out the Welsh Government's planning policy for Wales. As such, the PPW must be a material consideration for local authorities when considering planning decisions. The following points highlight those policies/statements which particularly relate to ecology/biodiversity and the planning system:

### Policy 5 – Distinctive and Natural Places

#### *Biodiversity and Ecological Networks*

5.42 The planning system has a key role to play in helping to reverse the decline in biodiversity and increasing the resilience of ecosystems, at various scales, by ensuring appropriate mechanisms are in place to both protect against loss and to secure enhancement. Development plan strategies, policies and individual development proposals must take into account the need to:

- promote the conservation of biodiversity, in particular the conservation of wildlife and habitats;
- ensure action in Wales contributes to meeting international responsibilities and obligations for biodiversity and habitats;
- ensure statutorily designated sites are properly protected and managed;
- safeguard protected species; and existing biodiversity assets from impacts which directly affect their nature conservation interests and compromise the resilience of ecological networks and the components which underpin them, such as water and soil; and
- seek enhancement of and improvements to ecosystem resilience by improving diversity, condition, extent and connectivity of ecological networks.

#### *Maintaining and Enhancing Biodiversity*

5.58 Planning authorities should protect and enhance biodiversity and build resilient ecological networks by ensuring that any adverse environmental effects are minimised and mitigated, by:

- ensuring that features and elements of biodiversity or green infrastructure value are retained on site wherever possible, and enhanced or created where appropriate, by adopting best practice site design and green infrastructure principles; and
- when all other options have been exhausted, and where modifications, alternative sites, conditions or obligations are not sufficient to secure beneficial environmental outcomes, offsite compensation for unavoidable damage should be sought.

## **Local Nature Reserves**

Local Nature Reserve (LNR) is a statutory designation made under Section 21 of the National Parks and Access to the Countryside Act 1949.

Local authorities have the powers to acquire, declare and manage LNRs. Parish and town councils can declare LNRs providing power is given by the district or county council. LNRs may or may not have other statutory designations such as SSSI status. LNRs must be controlled by the local authority through ownership, lease or agreement with the owner. The main aim must be



to care for the natural features which make the site special. LNRs are of local, but not necessarily national, importance.

LNRs are usually owned by local authorities, with management often passed onto other organisations such as County Wildlife Trusts etc. They often have good public access and facilities. There is no legal necessity to manage an LNR to any set standard but management agreements and plans often exist. Protection of LNRs is usually provided through local planning policy and through local bylaws.

### **Non-Statutory Protected Local Sites**

Non-statutory Designated Sites are sites designated by local authorities which fall outside the statutory criteria for designation. They are policy protected and included in the Planning Policy Wales (PPW). Local Planning Authorities should set criteria based policies against which proposals for developments on or affecting protected wildlife sites should be judged. Non-statutory sites are given various names including County Wildlife Sites (CWS), Sites of Importance for Nature Conservation (SINC) and Local Wildlife Sites (LWS). A search of the Ancient Woodland Inventory is also included here.

### **Hedgerows**

Hedgerows are designated as Habitats of Principal Importance under the Environment (Wales) Act 2016. The Planning Policy Wales (PPW) emphasises the preservation, restoration and re-creation of priority habitats and ecological networks. Hedgerows are important components of ecological networks linking other important habitats and designated sites.

Hedgerows also receive statutory protection under the Hedgerow Regulations 1997 made under Section 97 of the Environment Act 1995, which came into force in 1997. The regulations introduced new arrangements for local planning authorities in England and Wales to protect important hedgerows in the countryside, by controlling their removal through a system of notification. Important hedgerows are defined by complex assessment criteria, which draw on biodiversity features, historical context and the landscape value of the hedgerow.

### **Local Biodiversity Action Plan (LBAP)**

Local Biodiversity Action Plans (LBAP) identify habitat and species conservation priorities at a local level (typically at the County level), and are usually drawn up by a consortium of local Government organisations and conservation charities.

### **Birds of Conservation Concern (BoCC)**

The Birds of Conservation Concern (BoCC) is jointly prepared by the British Trust for Ornithology (BTO), Joint Nature Conservation Committee (JNCC) and The Royal Society for the Protection of Birds (RSPB).

The report classifies birds according to the extent that they are known to be declining. The classifications are split into groups, Red, Amber and Green, with species classified as Red being those with the greatest declines. The criteria for classifications are presented in *Table 2*.

**Table 2: BoCC species classification criteria**

Red List Criteria	Amber List Criteria	Green List Criteria
Global Conservation Status - Species listed by BirdLife International as being Globally Threatened using IUCN criteria.	European Conservation status - Categorised as a Species of European Conservation Concern.	All regularly occurring species that do not qualify under any of the red or amber criteria are green listed.
Historical Decline - A severe decline in the UK between 1800 and 1995, without substantial recent recovery.	Historical Decline – Recovery - Red listed for Historical Decline in a previous review but with substantial recent recovery (more than doubled in the last 25 years).	Includes those species listed as recovering from Historical Decline in the last review that have continued to recover and do not qualify under any of the other criteria.
Breeding Population Decline - Severe decline in the UK breeding population size, of more than 50%, over 25 years or the entire period used for assessments since the first BoCC review, starting in 1969 (“longer-term”).	Breeding Population Decline - As for red list criteria and, but with moderate decline (by more than 25% but less than 50%).	
Non-breeding Population Decline - Severe decline in the UK non-breeding population size, of more than 50%, over 25 years or the longer-term.	Non-breeding Population Decline - As for red list criteria and, but with moderate decline (by more than 25% but less than 50%).	
Breeding Range Decline - Severe decline in the UK range, of more than 50%, as measured by number of 10 km squares occupied by breeding birds, over 25 years or the longer-term.	Breeding Range Decline - As for red list criteria and, but with moderate decline (by more than 25% but less than 50%).	
	Rarity - UK breeding population of less than 300 pairs, or non-breeding population of less than 900 individuals.	
	Localisation - At least 50% of the UK breeding or non-breeding population found in 10 or fewer sites.	
	International Importance - At least 20% of the European breeding or non-breeding population found in the UK.	

## Appendix B- Protected Species Consultation Data

Table 1. Protected Species within 2km

Species	Relevant National Legislation	Approximate Location Relative to Site Boundary
<b>Mammals (Bats)</b>		
Serotine <i>Eptesicus serotinus</i>	Hab Reg Sch2, WCA Sch5, NERC S41	One record, 163m east.
Whiskered Bat <i>Myotis mystacinus</i>	Hab Reg Sch2, WCA Sch5, NERC S41	One record, 317m south.
Natterer's Bat <i>Myotis nattereri</i>	Hab Reg Sch2, WCA Sch5, NERC S41	One record, 317m south.
Myotis Species <i>Myotis sp.</i>	Hab Reg Sch2, WCA Sch5, NERC S41	Two records, closest 163m east.
Noctule <i>Nyctalus noctula</i>	Hab Reg Sch2, WCA Sch5, NERC S41	Two records, closest 163m southeast.
Common Pipistrelle <i>Pipistrellus pipistrellus</i>	Hab Reg Sch2, WCA Sch5, NERC S41	Three records, closest 147m north.
Soprano Pipistrelle <i>Pipistrellus pygmaeus</i>	Hab Reg Sch2, WCA Sch5, NERC S41	Five records, closest 163m east.
Pipistrelle species <i>Pipistrellus sp.</i>	Hab Reg Sch2, WCA Sch5, NERC S41	Four records, closest 106m east.
Brown Long-eared Bat <i>Plecotus auritus</i>	Hab Reg Sch2, WCA Sch5, NERC S41	Three records, closest 210m south.
Long-eared Bat Species <i>Plecotus sp.</i>	Hab Reg Sch2, WCA Sch5, NERC S41	One record, 163m southeast.
Lesser Horseshoe <i>Rhinolophus hipposideros</i>	Hab Reg Sch2, WCA Sch5, NERC S41	One record, 577m southeast.
<b>Mammals (Excluding Bats)</b>		
Eurasian Otter <i>Lutra lutra</i>	EPS, HDir, WCA Sch 5, S7, Bern, CITES	Four records, closest 453m north.
Hazel Dormouse Muscardinus avellanarius	EPS, HDir, WCA Sch5, S7, Bern, RDB2 (UK), LBAP	One record, 330 m north.
<b>Birds</b>		
Kingfisher <i>Alcedo atthis</i>	WCA Sch1	Four records, closest 1067m southeast.
Cetti's Warbler <i>Cettia cetti</i>	WCA Sch1	Two records, closest 1103m south.
Hen Harrier <i>Circus cyaneus</i>	WCA Sch1	One record, 589m south.
Dartford Warbler <i>Curruca undata</i>	WCA Sch1	One record, 1103m south.
Merlin <i>Falco columbarius</i>	WCA Sch1	Four records, closest 66m southeast.
Peregrine <i>Falco peregrinus</i>	WCA Sch 1, Bern, CITES	Six records, closest 100m southeast.
Hobby <i>Falco subbuteo</i>	WCA Sch1	Three records, closest 66m southeast.
Red-Throated Diver <i>Gavia stellata</i>	WCA Sch1	One record, 1128m southeast.
Little Gull <i>Hydrocoloeus minutus</i>	WCA Sch1	One record, 1067m southeast.
Mediterranean Gull <i>Ichthyaetus melanocephalus</i>	WCA Sch1	Five records, closest 578m south.
Common Scoter <i>Melanitta nigra</i>	WCA Sch1	One record, 1096m south.
Red Kite <i>Milvus milvus</i>	BDir1, WCA Sch 1.1, WCA Sch 9, CITES	Three records, closest 420m northeast.
Whimbrel <i>Numenius phaeopus</i>	WCA Sch1	Four records, closest 66m east.
Black Redstart <i>Phoenicurus ochruros</i>	WCA Sch1, Bern	Ten records, closest 66m southeast.
Snow Bunting <i>Plectrophenax nivalis</i>	WCA Sch1	One record, 1630m south.

Redwing <i>Turdus iliacus</i>	WCA Sch1	Seven records, closest 180m southwest.
Fieldfare <i>Turdus pilaris</i>	WCA Sch1	Eight records, closest 66m southeast.
Western Barn Owl <i>Tyto alba</i>	WCA Sch1	Five records, closest 66m southeast.
<b>Amphibians and Reptiles</b>		
Slow worm <i>Anguis fragilis</i>	WCA Sch5, NERC S41	For records, closest 253m east.
Palmate Newt <i>Lissotriton helveticus</i>	WCA Sch5	Single record, 301m west.
Smooth Newt <i>Lissotriton vulgaris</i>	WCA Sch5	Single record, 301m west.
Great Crested Newt <i>Triturus cristatus</i>	EPS, WCA Sch5	Three records, closest 286m west.
<b>Invasive Non-native Species</b>		
Three-cornered Garlic <i>Allium triquetrum</i>	WCA9, INNS	One record, 852m.
Montbretia <i>Crocsmia pottsii x aurea</i>	WCA9, INNS	One record, 990m.
Japanese Knotweed <i>Fallopia japonica</i>	WCA9, INNS	Two records, closest 1300m.
Himalayan Balsam <i>Impatiens glandulifera</i>	WCA9, INNS	Two records, closest 1800m.
Wireweed <i>Sargassum muticum</i>	WCA9, INNS	One record, 2000m.
<b>Key: NERC S41 – Natural Environment &amp; Rural Communities Act 2006 Section 41, Hab reg Sch2 – Conservation of Habitats &amp; Species Regulations 2017 (as amended) Schedule 2, WCA – Wildlife &amp; Countryside Act 1981, INNS – Invasive non-native Species Inventory.</b>		

**Table 2. Statutory Designated Sites**

Site Name	Site Reference	Proximity to site (approximate km)	Description
Barry Island SSSI	33WVA	10 km	Several horizontal to sub-horizontal terraces up to 15m wide are cut into the Carboniferous Limestone. These terraces are joined by vertical cliffs up to 5 m high and covered by marginal lacustrine facies of the Mercia Mudstone Group.
Cliff Wood - Golden Stairs SSSI	33WBC	7.3	The best example of a mixed woodland in South Glamorgan which has a canopy of pedunculate oak, ash, maple and yew. The interesting, ungrazed ground flora and wooded cliff areas includes Purple Gromwell <i>Lithospermum purpureocaeruleum</i> which is restricted to a very small number of sites in the county.
Cors Aberthin SSSI	33WNA	7.4	Aberthin Marsh, near the village of Aberthin, Vale of Glamorgan, has been designated as a Site of Special Scientific Interest in Wales since 23 March 2010 as a conservation attempt to protect and protect the site. Its area is 11.71 hectares.

Site Name	Site Reference	Proximity to site (approximate km)	Description
East Aberthaw Coast SSSI	33WTY	2.6	This small stretch of the South Glamorganshire Coastline supports a range of habitats that makes it one of the richest coastal wildlife sites in the county. Rocky and sandy shore, shingle spits, saltmarsh, relict sand dunes and Liassic limestone cliffs all support species of plants and animals that are of a limited distribution in the county.
Fferm Walters SSSI	33WBY	8.2	Designated in 2016, its area is 24ha.
Larks Meadows SSSI	33WKL	7.9	A 3.35ha meadow area designated as a SSSI in 2011,
Monknash Coast SSSI	33WVB	9.2	This 4.5 km stretch of coastline lies west of Llantwit Major, on the northern shore of the Bristol Channel. The Liassic Limestone cliffs and wave-cut platforms here are important for coastal geomorphology.
Nant Whitton Woodlands SSSI	33WVD	5.3	A narrow strip of woodland on a Liassic limestone slope in the Vale of Glamorgan. Primarily ash and oak with hazel, maple and hawthorn over spindle, wayfaring tree and other native shrubs.
Nash Lighthouse Meadow SSSI	33WVE	7.2	A small, unploughed limestone pasture, lightly grazed and used for hay production. It is notable for the large number of plant species present, including the rare <i>Cirsium tuberosum</i> .
Pysgodlyn Mawr SSSI	33WVH	8.8	The site is of special interest as the only locality in Glamorgan for Pillwort <i>Pilularia globulifera</i> . This rare fern is a species that has declined considerably in Britain with the filling of ponds and drainage of wetlands.
The Parish Field, Cae'r Rhedyn SSSI	SS 979776	10	The Parish Field, Cae'r Rhedyn SSSI is of special interest for its species-rich neutral grassland.

**Table 3. Non-statutory Designated Sites**

Site Name	Site Reference	Proximity to site (approximate km)	Description
Ancient Semi-Natural Woodland	ASNW-7917, -7919, -7920, -7921, -7923, -7924, -15298, -15299, -15300, -15301, -15303, -15304, -15305, -15307, -15308	Closest is 0.4 km south-east	Broadleaved woodlands comprising mainly native tree and shrub species which are believed to have been in existence for over 400 years.
Castle Wood / Wildlife Site SINC (Adopted)	SINC_VOG-320	1.8	A stretch of ancient seminatural woodland and restored ancient woodland.
Coast at Aberthaw Power Station / Wildlife Site SINC (Adopted)	SINC_VOG-348	1.10	A 0.62 ha intertidal stretch of sand and shingle substrate located at the west of Aberthaw Power Station.
Coed Llancadle / Wildlife Site SINC (Adopted)	SINC_VOG-310	1.5	3 ha of ancient seminatural woodland between farmlands located at the east of Thaw Valley.
East Aberthaw Coast Former Quarry/ Wildlife Site SINC (Adopted)	SINC_VOG-316	1.6	Former quarry at the East of Aberthaw surrounded by a small stretch of woodland.
East Orchard Wood / Wildlife Site SINC (Adopted)	SINC_VOG-307	0.7	A stretch of ancient seminatural woodland and restored ancient woodland.
Land adjacent to Burton Plantation / Wildlife Site SINC (Adopted)	SINC_VOG-313	1.6	A 0.67ha stretch of woodland.
Land at East Aberthaw / Wildlife Site SINC (Adopted)	SINC_VOG-350	1.5	A long stretch of woodland that goes along East Aberthaw former quarry to the coast, with a 1.4ha saline lagoon, and saltmarsh patch at the southwest end of the site.
Land South of Llancadle / Wildlife Site SINC (Adopted)	SINC_VOG-314	1.7	A small stretch of woodland at the south of the rural village of Llancadle.

Site Name	Site Reference	Proximity to site (approximate km)	Description
Lower Thaw Valley/ Wildlife Site SINC (Adopted)	SINC_VOG-311	1.3	This dramatic valley forms the primary landscape quality of the area, with distinctive deep, wooded side slopes giving a strong sense of place.
National Resources Wales Priority Area (Coastal Saltmarsh)	Saltmarsh Priority Area_1	0.4	Saltmarshes are intertidal areas of fine sediment, stabilised by a characteristic form of vegetation. They are extremely important coastal habitats, supporting specialist plant communities and providing habitat for a variety of birds, fish, small mammals, and terrestrial and marine invertebrates.
National Resources Wales Priority Area (Enclosed Farmland)	Glamorgan Arable Priority Area 2, 16 and 41	Closest is 0.012 km west	Species of arable plants include cornflower, small-flowered catchfly, and shepherd's needle. Birds such as chough, yellowhammer and linnet benefit from sensitive farmland management and brown hare and voles live in suitably managed farmland habitats.
North of Aberthaw Cement Works / Wildlife Site SINC (Adopted)	SINC_VOG-312	1.5	An area of farmland landscapes that collides with the Lower Thaw Valley at the west and with Aberthaw Cement works at the south.
Ox Moor / Wildlife Site SINC (Adopted)	SINC_VOG-309	1.7	An area of 9.2ha of open rolling land to the side of Oxmoor wood wildlife site.
Oxmoor Wood / Wildlife Site SINC (Adopted)	SINC_VOG-308	1.3	An 8.7 ha stretch of ancient seminatural woodland and restored ancient woodland.
Restored Ancient Woodland Site	RAWS-9269, -9275, -9276, -9277, -10651	0.45	Woodlands which are predominately broadleaves now and are believed to have been continually wooded for over 400 years. They will have gone through a phase when canopy cover will have been more than 50% non-native conifer tree species and now have a canopy cover of more than 50% broadleaf.
The Walls at Aberthaw / Wildlife Site SINC (Adopted)	SINC_VOG-349	1.04	An intertidal area of fine sediment located at the South of Aberthaw.

**APPENDIX B – BOTANICAL SPECIES LIST**Improved Pasture

Common Name	Latin Name
Annual Meadow Grass	<i>Poa annua</i>
Bent sp.	<i>Agrostis sp.</i>
Broadleaf Plantain	<i>Plantago major</i>
Broad-leaved dock	<i>Rumex obtusifolius</i>
Cocks foot	<i>Dactylis glomerata</i>
Creeping Buttercup	<i>Ranunculus repens</i>
Creeping Thistle	<i>Cirsium arvense</i>
Dandelion Sp.	<i>Taraxacum officinale agg</i>
Perennial Ryegrass	<i>Lolium perenne</i>
Red Clover	<i>Trifolium pratense</i>
Spear Thistle	<i>Cirsium vulgare</i>
White Clover	<i>Trifolium repens</i>

Hedgerows Woody Species

Common Name	Latin Name
Blackthorn	<i>Prunus spinosa</i>
Bramble	<i>Rubus fruticosus</i>
Clematis	<i>Clematis sp.</i>
Dog rose	<i>Rosa canina</i>
English elm	<i>Ulmus procera</i>
Field maple	<i>Acer campestre</i>
Hawthorn	<i>Crataegus monogyna</i>
Hazel	<i>Corylus avellana</i>

Railway Embankment with Ruderal and Scrub Offsite (H<sup>9</sup>)

Common Name	Latin Name
Blackthorn	<i>Prunus spinosa</i>
Bramble	<i>Rubus fruticosus</i>
Clematis	<i>Clematis sp.</i>
Common Nettle	<i>Urtica dioica</i>
Hawthorn	<i>Crataegus monogyna</i>
Holm Oak	<i>Quercus ilex</i>

Hedge Banks

Common Name	Latin Name
Bracken	<i>Pteridium aquilinum</i>
Bramble	<i>Rubus fruticosus</i>
Bristly oxtongue	<i>Picris achiodides</i>
Broad buckler fern	<i>Dryopteris dilatata</i>
Broad-leaved dock	<i>Rumex obtusifolius</i>
Cleavers	<i>Gallium aparine</i>



Cocks foot	<i>Dactylis glomerata</i>
Common Ivy	<i>Hedera helix</i>
Common nettle	<i>Urtica dioica</i>
Creeping Cinquefoil	<i>Potentilla reptans</i>
Creeping thistle	<i>Cirsium arvense</i>
Dandelion Agg	<i>Taraxacum officinale agg</i>
Dove's foot crane's-bill	<i>Geranium molle</i>
False oat grass	<i>Arrhenatherum elatius</i>
Germander speedwell	<i>Veronica chamaedrys</i>
Ground ivy	<i>Glechoma hederacea</i>
Hairy brome	<i>Bromus ramosus</i>
Hart's tongue fern	<i>Asplenium scolopendrium</i>
Hedge bedstraw	<i>Galium mollugo</i>
Hedge Bindweed	<i>Calystegia sepium</i>
Hemlock	<i>Conium maculatum</i>
Herb Robert	<i>Geranium robertianum</i>
Hogweed	<i>Heracleum sphondylium</i>
Lesser Celandine	<i>Ranunculus ficaria</i>
Moss sp.	<i>Bryophyta sp.</i>
Red clover	<i>Trifolium pratense</i>
Red fescue	<i>Festuca rubra</i>
Wavy bittercress	<i>Cardamine flexuosa</i>
White Dead Nettle	<i>Lamium album</i>
Winter heliotrope	<i>Petasites fragrans</i>
Yarrow	<i>Achillea millefolium</i>

Road Border – Scattered Linear Scrub (occasionally dense) (F1, F3)

Common Name	Latin Name
Ash	<i>Fraxinus excelsior</i>
Blackthorn	<i>Prunus spinosa</i>
Bramble	<i>Rubus fruticosus</i>
Clematis	<i>Clematis sp.</i>
Cocks foot	<i>Dactylis glomerata</i>
Common dogwood	<i>Cornus sanguinea</i>
Dewberry	<i>Rubus caesius</i>
English elm	<i>Ulmus procera</i>
Field maple	<i>Acer campestre</i>
Hard Shield Fern	<i>Polystichum setiferum</i>
Hart's Tongue Fern	<i>Asplenium scolopendrium</i>
Hedge Bedstraw	<i>Galium mollugo</i>
Hemlock	<i>Conium maculatum</i>
Holm Oak	<i>Quercus ilex</i>
Perennial Ryegrass	<i>Lolium perenne</i>

## APPENDIX D – SITE PHOTOS



Photo1- View across improved pasture field, typical for the site



Photo 2- Looking southwest along H2. Heavily poached by livestock and typical of hedges in central areas of the site. All hedges are on banked features





Photo 3- H3 is in better condition and includes hedgebank with rougher sward, possibly suitable for reptiles.



Photo 4- Southern end of H7 (TN4) where outgrown section is present on railway bridge embankment.





Photo 5- Patchy scrub along railway embankment. This is off site, but adjacent to proposals



Photo 6- Mature ash trees around farmhouse garden (TN2)





Photo 7- 1 of 2 Pillboxes with low bat potential TN3



Photo 8- Semi-mature trees along road boundary, off site.