

# **Ecological Appraisal Report:**

Land off A4063 Pont Rhyd-y-cyff, Llangynwyd Maesteg

# October 2020

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# Summary

I & G Ecological Consulting were commissioned to undertake an ecological appraisal of an area of land approximately 6.0 hectares in size, located south of the village of Pont Rhyd-y-cyff, in the county borough of Bridgend.

The land within the site boundary consists predominantly of marshy grassland, with woodland, scrub, tree lined banks, ditches & boundary hedges, streams and drainage ditches. The site is designated as a Site of Importance for Nature Conservation (SINC) by Bridgend County Borough Council.

No signs of European protected species were observed. The non-native invasive species Himalayan balsam and Japanese knotweed were encountered on the site.

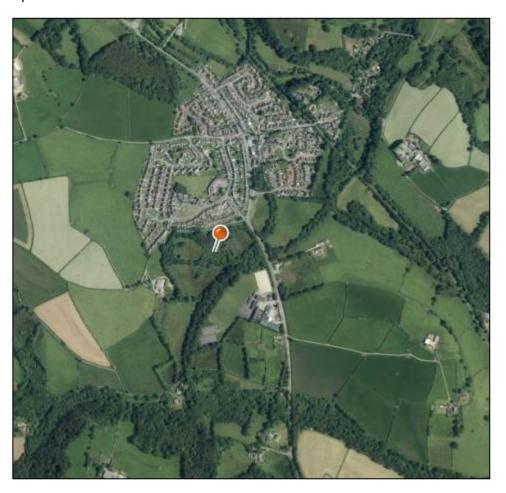


Figure 1. Location of site Grid Ref: SS 86731 88543

In terms of the application site, the bulk of the habitat is marshy grassland of High Local ecological interest. The woodland and watercourses are also of high interest, form important linking habitats and contain a large number of significant trees.

#### 1. INTRODUCTION

- 1.1.1 I & G Ecological Consulting were commissioned to undertake an ecological appraisal of an area of land near Maesteg. The site is approximately 6.0 hectares in size. The report is to inform an application for Planning Permission for a residential development.
- 1.1.2 This report presents the findings of both a desk study and a site appraisal undertaken in October 2020. The report outlines the ecological constraints/opportunities associated with the site.
- 1.1.3 The survey was conducted during sub-optimal conditions as vegetation survey can be limited outside of the main flowering season for grassland and hedgerow habitats.

#### 2. METHODOLOGY

- 2.1.1 Both a desk-based survey and an ecological site survey were undertaken to establish the ecological conditions on site.
- 2.1.2 A field botanical survey was carried out using survey methods that were based on standard Phase 1 Habitat survey techniques. The CIEEM Guidelines for Preliminary Ecological Appraisal were also followed and adhered to.

# 2.2 Badgers

2.2.1 The surrounding habitat was assessed for its suitability for badgers which includes the presence of setts, well-worn paths and runs, snagged hair, latrines, footprints and foraging. Any such incidental signs of badgers were recorded if they were encountered.

#### 2.3 Otters

2.3.1 The surrounding habitat was assessed for its suitability to support otters. The area was searched for otter field signs such as spraint marking, slides, hovers or footprints.

#### 2.4 Dormouse

2.4.1 The habitats on site, particularly the hedgerows were assessed for their suitability to support dormice.

#### 2.5 Birds

2.5.1 The habitats on site were assessed for their suitability for breeding birds, including trees, scrub and grassland.

## 2.6 Bats

2.6.1 Habitats on site were assessed for their suitability to support bats, particularly any trees on site that could have bat roosting potential or opportunities.

# 2.7 Reptiles

2.7.1 The habitats on site were assessed for their suitability to support reptiles.

# 2.8 Amphibians

2.8.1 The habitats on site were assessed for their suitability to support amphibians.

#### 2.9 Water Voles

2.9.1 The surrounding habitats on site were assessed for their suitability to support water voles.

# 2.10 Marsh Fritillary

The surrounding habitats on site were assessed for their suitability to support marsh fritillary butterfly and their food plant Devil's bit scabious *Succisa pratensis*.

# 2.11 Non-Native Invasive Species

2.11.1 Any pernicious weeds under Schedule 9, Section 14 of the Wildlife and Countryside Act 1981 (as amended) were also noted and mapped during the site survey. These species include Japanese Knotweed (*Fallopia japonica*) and Himalayan Balsam (*Impatiens glandulifera*).

#### 3. RESULTS

# 3.1 Desk study

3.1.1 A data search was requested from the South East Wales Biological Records Centre for the planning application site and surrounding area of up to 2km. A number of protected and notable species records were returned within 2km of the site centre.

The records will not be listed here, but the most significant, those which are considered to potentially be affected by development of the site, will be briefly summarised. However, the full data are available upon request to those nominated on the request form, as some data may be classified as sensitive.

3.1.2 The significant findings from the data search are summarised below: -

# 3.1.3 Birds

The data search returned 56 entries of birds which are categorised as priority species within 1km of the site. A number of records are at the 1km square level. Notable species include marsh tit (*Poecile palustris*), linnet (*Linaria cannabina*), barn owl (*Tyto alba*), skylark (*Alauda arvensis*) and lapwing (*Vannelus vannelus*).

# 3.1.4 Mammals

The data search returned 11 records of mammals within 1km of the site centre, most significantly these included:-

- 2 entries for bats (*Pipistrellus pipistrellus*), both at the 1km square level
- 1 entry for otter (Lutra lutra), recorded on the afon Llynfi at Llety Brongu.
- 5 entries for badger (*Meles meles*), closest at 409m from site.
- 1 entry for roe deer (Capreolus capreolus) at 511m from site.
- 1 entry for hedgehog (*Erinaceous europaeus*), 542m from site

# 3.1.5 Invertebrates

The data search returned 1 record of invertebrates within 1km of the site for small heath (*Coenonympha pamphilus*) at the 1km grid square level. There are records for marsh fritillary (*Euphydrias aurinia*) and small pearl-bordered fritillary (*Boloria celene*) beyond 1.5km.

# 3.1.6 Plants

The data search returned very few records of plants within 1km of the site. There are 4 records for bluebell (*Hyacinthoides non-scripta*), the closest being at 460m from the site.

# 3.1.7 Reptiles

The data search returned 0 records of reptiles within 1km of the site; but slowworm (Anguis anguis), common lizard (Zootoca vivipara), adder (Vipera berus) & grass snake (Natrix helvetica) all occur within 1.5km.

#### 3.1.8 Amphibians

The data search returned 2 records for amphibians; common toad (*Bufo bufo*) and common frog (*Rana temporaria*) both at a 1km square resolution.

# 3.1.9 Non-native Invasive species

The data search returned 25 records of INNS within 1km of the site. These include Japanese knotweed (*Fallopia japonica*) within 150m; Himalayan balsam (*Impatiens glandulifera*) and Montbretia (*Crocosmia pottsii x aurea*) at 401m.

# 3.1.10 Statutory Designated Sites

The data search showed that there is 1 site of National or International importance (e.g. SSSIs, SACs or SPAs) within the search buffer.

SSSI - Cwm Du Woodland 936m to N

# 3.1.11 Non-statutory Sites

The proposed development site lies within the Ty'n y Waun Site of Importance for Nature Conservation (SINC), which is notified for its semi-improved neutral and marshy grassland. A further 14 sites lie within the 2km search area, the nearest:

Llety Brongu 171m NE along the small un-named stream draining to the Llynfi

# 3.1.12 NRW Priority Areas

There are a good number of Priority Areas of habitat surrounding the site and are categorised thus (from WWWBIC data results table)

- 46 Ancient Semi Natural Woodland
- 6 Restored Ancient Woodland Sites
- 2 Ancient Woodland Site of Unknown category
- 1 Heathland and Grassland Priority Areas

# 3.1.13 CCW Phase 1 Survey

Information obtained from the Phase 1 Survey of Wales (CCW.1997), was also used to provide an indication of the broad habitat types previously recorded in the local area. The survey mapped the site as a mixture of dense scrub, semi-natural broadleaf woodland, poor semi-improved and semi-improved neutral grassland. It should be noted that whilst the CCW data-set is useful to indicate broad habitat types locally, it is not suitable for site specific assessment. The data set was gathered over a period of years (1979 – 1997) and habitats will have changed in the interim period depending on land use, management, development works etc.

# 3.2 Site Appraisal

# 3.2.1 On site survey

- 3.2.2 The site survey was undertaken on 10<sup>th</sup> October 2020 by a suitably qualified ecologist. Where possible, the habitats were cross-referenced to any important UK priority habitats or local habitats adopted by the Local Biodiversity Action Plan.
- 3.2.3 The land within the red line site boundary (see Fig. 2) comprises of marshy grassland, with woodland, scrub, tree lined banks, ditches & boundary hedges, streams and drainage ditches. The site is fronted to the east by the A4063 Maesteg to Bridgend road. The site is well connected to woodland and hedgerows, with improved grassland to the east and west and housing development to the north.



Figure 2. Area surveyed (from Google maps)

Habitats recorded within red line boundary were as follows:-

# 3.3 Marshy grassland

3.3.1 The centre of the site is dominated by a series of marshy grassland blocks separated from each other by drainage ditches running north-south and two wooded streams flowing west to east (TN1;Fig. 3&4). The site slopes in a west to east direction. The rhos pasture lies on shallow peat over clay, with some areas extremely wet underfoot. Soft rush and the grasses Yorkshire fog and red fescue dominate, but better areas contain purple moor grass, sharp-flowered rush, star sedge, oval sedge and common yellow sedge. Ragged robin is abundant throughout, with angelica, birds-foot trefoil, spearwort, willowherb, marsh thistle, marsh bedstraw and hemp agrimony. Himalayan balsam is present around the margins and ditch lines, where bramble, downy birch and grey willow are encroaching. Ditch margins are dominated by hemlock water-dropwort, glyceria, marsh St. John's-wort, toad rush and water mint.





Fig. 3&4

3.3.2 The central portion of marshy grassland has recently had encroaching grey willow and downy birch felled, and on more disturbed water logged soil species such as ivy-leaved crowfoot, floating sweet grass, blinks and water mint occur. Ferns and foxglove occur on dryer tumps (TN2; Fig.5).



Fig. 5

3.3.3 The upper portion of marshy grassland tends more towards poor semi-improved grassland, dominated by Yorkshire fog and soft rush but a higher component of species such as creeping buttercup, thistle, broad leaved dock, dandelion, rye-grass and nettle. Marshy grassland species such as birdsfoot trefoil and purple moor grass are still present but at lower densities (TN3).

# 3.4 Poor semi-improved grassland

3.4.1 A narrow strip of land to the north and the small block of land in the NW corner consist of species poor semi-improved grassland (TN4&5; Fig.5&6). They are dominated by Yorkshire fog and red fescue with occasional cocksfoot and perennial rye-grass. Soft rush is frequent, with compact rush occurring along tractor access routes. Creeping buttercup is abundant, nettle frequent, with occasional white clover, broad leaved dock, common knapweed, ribwort plantain and hogweed. Himalayan balsam is widespread and Japanese knotweed is present at two locations along the streamside woodland edge.



Fig. 5& 6

# 3.5 Hedgerow

3.5.1 The hedgerow fronting the access lane to Ty'n y Waun has been intensively flailed (TN6;Fig. 7). Blackthorn dominates, with abundant hawthorn and bramble and frequent hazel. Coarse grasses including cocksfoot, tufted hair grass and false oat grass occupy the base /field edge. Forbs include herb Robert, hogweed, willowherbs, hedge woundwort and Himalayan balsam, together with good numbers of broad buckler, soft shield, hart's tongue and lady fern.



Fig. 7

3.5.2 The hedgerow running along the western boundary bank and ditch is dominated by mature oak, sycamore, ash and beech trees. (TN7;Fig.8). The sub-layer contains grey willow, hawthorn, hazel and holly. Much of the bank is heavily shaded; bramble is abundant, nettle and ivy frequent. Ferns are well represented and include broad buckler, soft shield, hard and lady fern. Mosses include bank hair cap.



Fig. 8

3.5.3 The hedgerow running along the eastern boundary is gappy with no overall species dominant (TN8;Fig. 9). Oak, holly, silver birch, hazel, dog rose, grey willow, hawthorn and blackthorn are all present. Some of the oaks are mature. Bramble dominates the ground layer with ground ivy, hedge woundwort, herb Robert, enchanter's nightshade and wood sage. Ferns are well represented and include broad buckler, hart's tongue and hard fern. Mosses include bank hair cap. Japanese knotweed and Himalayan balsam are both present.



Fig. 9

#### 3.6 Broadleaf Woodland & Stream Corridors

3.6.1 The block of woodland to the north of the site is centred on a line of mature oak and ash trees. To either side of this scrubby woodland has developed with grey willow and hazel. Bramble dominates the ground layer, with ivy, enchanter's nightshade, remote sedge, lady fern, hard fern and buckler fern. The woodland fans out around the top of the ditch lines draining south, into willow and downy birch scrub with bramble (TN9; Fig.10&11). A ditch flows about a quarter of the way down the woodland, and is augmented by a spring further down the site to become a running stream which flows into a culvert at the bottom end of the site.





Fig. 10&11

3.6.2 The central block of woodland follows a bank and stream heading eastwards. Mature oak and ash dominate the bank line with willow, birch and bramble colonising the marshy grassland to both sides. A drainage ditch flowing in from the SW is dominated by grey willow, downy birch and bramble. Ferns and mosses are frequent along the bank line/stream edge and include hard fern, broad and narrow buckler fern and bank haircap. (TN10; Fig.12&13).



Fig. 12&13

3.6.3 The block of woodland to the south and east is dominated by oak, with rowan, silver birch, and holly; hazel and honeysuckle are occasional. Grey willow is frequent in wetter pockets with frequent remote sedge (TN11; Fig.14). In drier areas bramble and ivy dominate the ground layer with occasional goldenrod and frequent buckler, hard and lady fern. Himalayan balsam is throughout.



Fig. 14

# 3.7 Badgers

3.7.1 No evidence of badgers was observed on site. The woodland to the south would be suitable for badger, but there is a well used right of way, so disturbance from dogs may dissuade them.

#### 3.8 Bats

3.8.1 There are a large number of semi-mature and mature trees, mainly oak, in the woodland, hedgerows and stream banks. Many of these have features likely to support roosting bat opportunities. The hedgerow's, woodland and tree lines are likely to provide flight lines and foraging opportunities. The cattle grazed marshy grassland is likely to provide foraging opportunities for species such as noctule.

#### 3.9 Otters

3.9.1 The site is highly suitable for otter with the two vegetated streamside corridors, additional ditch lines, willow scrub and bramble providing good cover and a range of feeding opportunities. The site is likely to be most attractive during the spring, with amphibians providing a food resource. The waterbodies flow to the SE corner where they are culverted under the highway. There is no potential for otter to pass via the culvert. The watercourse continues eastwards to join the afon Llynfi. The data search returned 1 record within 1km, at Llety Brongu on the afon Llynfi. No signs of otter were recorded on site or where the watercourse outflows from the road culvert.

#### 3.10 Reptiles

3.10.1 The vegetation cover over the site is of mixed height, density and structure, and the range of habitats give the site the structural complexity that reptiles require to provide suitable ecotone areas for basking and cover.

# 3.11 Amphibians

3.11.1 There is suitable breeding habitat for amphibians on site. The dense areas of rush/grassland and scrub will support terrestrial phase amphibians and provide refugia. Common frog was observed on site.

#### 3.12 Hazel Dormouse

3.12.1 There are no records of dormouse in the area. The hedgerows lack the structural complexity favoured by dormice and there is a general lack of hazel and honeysuckle on the site. The woodland is heavily shaded with little ground layer. Thicker areas of bramble along the stream edges could provide suitable cover.

#### 3.13 Water Voles

3.13.1 The small open ditches running north to south across the marshy grassland would be suitable for water voles. However the habitat is minimal with no water vole recorded within the search buffer.

# **3.14** Birds

3.14.1 The mix of vegetation types will provide forage and shelter/nesting opportunities for a range of species.

# 3.15 Marsh Fritillary

3.15.1 The lack of significant areas of purple moor grass and the absence of devil's bit scabious, the preferred larval food plant, makes the marshy grassland unlikely to support marsh fritillary butterfly.

# 3.16 Non-native Invasive Species

3.16.1 Himalayan balsam is present across the site, but mainly associated with the field boundaries, hedgerows, ditch and stream lines. Japanese knotweed is present at a number of locations at the eastern end of the site.



Fig. 15& 16

# **4. ECOLOGICAL ASSESSMENTS**

4.1.1 The following values have been provided to assess the importance of an ecological feature value within a geographical context, as recommended within the CIEEM Guidelines for Ecological Impact Assessment (2016) and the CIEEM Guidelines for Ecological Report Writing (Dec.2015). See Table 1 below:

#### 4.1.2 Table 1: Ecological Value Assessments

Importance	Examples of features
International & European	European designated or proposed sites such as Ramsar Sites, Special Protection Areas, Special Areas of Conservation, World Heritage sites or Biosphere Reserves; or otherwise meeting criteria for European or International designation. Sites supporting populations of European important species. Species listed within the
	Annex's of The Conservation of Habitats & Species Regulations 2010
National	Nationally designated sites such as Sites of Special Scientific Interest (SSSIs), National Nature Reserves (NNRs), areas of key habitats and species within the UK Biodiversity Action Plan. Sites supporting viable breeding populations of Red Data Book (RDB) species (excluding scarce species), or supplying critical elements of their habitat requirements. Species listed within the schedules of the Wildlife & Countryside Act 1981.

Regional	Sites containing viable areas of threatened habitats and species listed in a regional
	Biodiversity Action Plan, sites exceeding Site of Importance for Nature Conservation
	(SINC) 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.
High Local	Sites meeting the criteria for a county, vice 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 or species 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.
Moderate Local	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. Sites with viable breeding populations of species listed as rare in the District
	or Borough LBAP or supplying critical elements of their habitat requirements.
Low Local	Undesignated sites or features considered appreciably enriching the habitat
	resource within the context of the Parish or neighbourhood.
Negligible	Low-grade and widespread habitats.

# 4.1.3 Table 2: Impact level Criteria

Severe	Permanent impacts
Major	Loss of feature and/or quality and integrity of feature; severe damage to key
	characteristics, features or elements.
Moderate	Loss of feature, but not adversely affecting the integrity; partial loss of/damage to
	key characteristics, features or elements.
Minor	Some measurable change in attributes, quality or vulnerability; minor loss of, or
	alteration to, one (maybe more) key characteristics, features or elements
Negligible	Very minor loss or detrimental alteration to one or more characteristics, features or
	elements
Neutral	No impacts

# 4.2 Priority Habitats and Species

- 4.2.1 UK BAP priority habitats and species were those that were identified as being the most threatened and requiring conservation action under the UK Biodiversity Action Plan (UK BAP). As a result of devolution, conservation action is now focused at a country-level rather than a UK-level, and the UK BAP was succeeded by the UK Post-2010 Biodiversity Framework in July 2012. The UK list of priority species, however, remains an important reference source and has been used to help draw up statutory lists of priority species and habitats in the four countries of the UK.
- 4.2.2 The Environment Wales Act (2016) (EWA) Section 6 places a duty on public authorities to 'seek to maintain and enhance biodiversity' and seek to 'promote the resilience of ecosystems'. The duty replaces the section 40 duty in the Natural Environment and Rural

Communities Act 2006 (NERC Act 2006), in relation to Wales, and applies to those authorities that fell within the previous duty. Section 7 lists both Priority Species and Habitats of Principle Importance for the purpose of maintaining and enhancing biodiversity in relation to Wales.

4.2.3 The Bridgend Local Biodiversity Action Plan (LBAP) aims to maintain and enhance biodiversity which covers a range of selected habitats and species which reflect both national and local priorities; develop effective local partnerships; monitor progress in achieving local biodiversity targets.

# 4.3 Assessments on the Habitats & Species Identified During the Survey

#### 4.4. Habitats

# 4.4.1 Marshy Grassland

The marshy grassland is extensive and is growing on peat soils. However large areas are of moderate quality and the lack of appropriate management is leading to succession to willow and birch scrub. The lack of purple moor grass and the absence of devils-bit scabious mean the site is currently unsuitable for marsh fritillary butterfly. The mix of marshy grassland, ditches and scrub vegetation will provide habitat for a range of species groups. The sites notification as a SINC raises its importance, and its value has been assessed as: *High Local*. Loss of this habitat, without mitigation, is considered to be *Severe*.

# 4.4.2 Hedgerow/tree-lines and Scrub

The hedgerows/tree-lines were considered to be of high ecological interest, and the south-western hedgerow is included within the boundary of the Ty'n y Waun SINC. A large number of mature trees are present, many with bat roosting opportunities; they will have value as habitat cover and as food sources for a range of birds, mammals and invertebrate species. Their connectivity to other similar habitats will be of value to local wildlife. The hedgerow/tree-line to the west and south west has the greatest value, the intensively managed hedgerow to the north, and the gappy hedgerow to the east is of lesser value. Overall, the value of the western/south-western hedgerow and trees was assessed as: *High Local*. Loss or damage to this habitat would be *Severe*, without mitigation.

The value of the northern and eastern hedgerows was assessed as: **Low Local.** Partial loss or damage to this habitat would be **Minor** without mitigation.

#### 4.4.3 Woodland and streams

The broadleaf woodland and stream corridors are of high ecological interest and are included within the Ty'n y Waun SINC; they include a large number of mature trees, many with bat roosting opportunities; they will have value as habitat cover and as food sources for a range of birds, mammals and invertebrate species. Their connectivity to other similar habitats will be of value to local wildlife; their value has been assessed as: **High Local.** Loss of this habitat, without mitigation, is considered to be **Severe.** 

# 4.4.4 Poor Semi-improved grassland

The two blocks of poor semi-improved grassland are of low ecological interest, the NW parcel is included within the Ty'n y Waun SINC but would not meet the criteria for inclusion in isolation; they will have value as habitat cover and as food sources for a range of birds, mammals and invertebrate species. Their connectivity to other similar habitats will be of value to local wildlife; their value has been assessed as: **Low Local.** Loss of this habitat, without mitigation, is considered to be **Minor.** 

#### 4.5 Species

- 4.5.1 The field survey identified the on-site habitats as having the potential to support the following species which are also listed under UK BAP: Breeding Birds, Bats, Otter, Reptiles and Amphibians.
- 4.5.2 The survey concluded that the site consisted of suitable habitat which could support priority species such as bats and otter.

# 4.6 Ecosystem Resilience

4.6.1 Area loss can cause populations of organisms to decline due to a decrease in habitat size. The area to be developed consists of five habitat types: Hedgerow, Broadleaf woodland, Marshy grassland, Watercourses and Poor Semi-improved neutral grassland. If the site is cleared without any mitigation for development the impact is expected to be **Severe**.

#### 5. CONCLUSIONS AND RECOMMENDATIONS FOR FURTHER SURVEY

5.1 The combination of desk and field surveys undertaken at the proposed development site identified that the majority of the area within the planning site boundary has high ecological value. The majority of the site is notified as a SINC, and the size and range of habitats and their linkage to other SINC's and habitats in the borough, provides corridors for dispersal and will support a more diverse range of species, provide nesting opportunities for birds, cover for mammals, reptiles, amphibians and invertebrates and flight lines for bats.

# 5.2 Marshy grassland

- 5.2.1 In terms of the site's ecological potential, the marshy grassland, ditches and peripheral scrub were considered to have high habitat value. They occupy a significant proportion of the sites 6ha, and the whole of the habitat falls within the Ty'n y Waun SINC boundary.
- 5.2.2 In the absence of appropriate management the marshy grassland is declining in quality, and the low grazing pressure is leading to its succession to wet woodland.
- 5.2.3 Loss of the habitat cannot be mitigated for on site.

5.2.4 Should the site be developed then it is recommended that the drainage ditches be retained to provide habitat connectivity. Their incorporation into an appropriate SUDS scheme for the site, together with ponded areas would provide partial mitigation.

# 5.3 Hedgerows/Tree-lined boundaries

- 5.3.1 In terms of the site's ecological potential, the western hedgerow and trees were considered to have high habitat value. They are also included within the boundary of the Ty'n y Waun SINC. They should be retained in their entirety with an appropriate offset from the development boundary.
- 5.3.2 The boundary hedgerows to the north and east are either heavily managed or have become very gappy and outgrown. They will provide connectivity to adjacent habitats, and so should be retained within the development plan. The loss of sections to provide access points to the site could be adequately mitigated for by instigating appropriate hedgerow management such as laying and gapping up to the eastern boundary and a minor relaxation in management to the northern boundary.
- 5.3.3 Loss of scrub habitat and trees should be mitigated for by suitable new planting, detailed in the landscape scheme and approved by the LA ecologist. Any new planting should be with trees and shrubs of local provenance and should seek to replicate the species mix present in the existing hedgerow. Landscaping should include berry bearing species such as guelder rose, rowan and purging/alder buckthorn, which will also attract brimstone butterfly.
- 5.3.4 Protection of trees and hedgerows through the use of Root Protection Zones and appropriate working methodology as well as proximity of development boundary must be considered.

# 5.4 Broadleaf Woodland and Stream corridors

- 5.4.1 In terms of the site's ecological potential, the broadleaf woodland and streamside corridors were considered to have high habitat value. They occupy a significant proportion of the site, and the majority of the habitat falls within the Ty'n y Waun SINC boundary. Parts of the woodland are noted as Ancient Semi Natural Woodland and form part of NRW's Priority Areas for this habitat.
- 5.4.2 They should be retained in their entirety, with an appropriate offset from any development boundaries to protect both the root zones and any polluting run-off from the development during both the construction and occupation phases.

#### 5.5 Birds

5.5.1 All nesting birds are protected under Section 1 of the Wildlife and Countryside Act of 1981. Therefore, vegetation clearance should be planned outside the nesting bird season.

#### **5.6** Bats

5.6.1 The woodland, scrub, hedgerows and tree-lines will act as flight lines for bats and any dark corridors should be maintained as such. An appropriate lighting plan in relation to bats will need to take such habitat into consideration. A number of trees have features suitable for supporting roosting bats. Any mature trees which require felling or management in order to accommodate the development will be subject to inspection and assessment for suitability for use by bats, by a licenced bat surveyor following current guidelines (Bat Conservation Trust).

#### 5.7 Dormice

5.7.1 The habitat is generally sub-optimal for dormice, and there are no records for dormouse in the area. A precautionary approach to site clearance should be taken. Enhancement opportunities may exist within the development layout which will improve the integrity and species diversity of the hedgerows, and seek to increase connectivity to any adjacent suitable habitat.

#### 5.8 **Reptiles & Amphibians**

5.8.1 A **method statement and mitigation plan** should be prepared in order to protect reptiles and amphibians during site clearance and construction.

# 5.9 Invasive Non-native species

5.9.1 There is a large quantity of Himalayan balsam throughout the site. Japanese knotweed was observed at 3 locations near the north-eastern boundaries. A management plan will need to be developed to control knotweed on site and prevent the spread of both knotweed and balsam within and off site. Materials brought into the site should be clean and free from INNS.

#### 5.10 Biodiversity and Resilience of Ecosystems Duty (Section 6 Duty)

- 5.10.1 The Environment (Wales) Act 2016 introduced an enhanced biodiversity and resilience of ecosystems duty (Section 6 Duty) applicable to Local Authorities. This duty filters through to all those participating in the Planning process.
- 5.10.2 Planning authorities must seek to maintain and enhance biodiversity in the exercise of their functions. This means development should not cause any significant loss of habitats or populations of species, locally or nationally and must provide a net benefit for biodiversity.
- 5.10.3 New dwellings should include artificial habitats such as bat bricks/boxes, bird boxes/bricks or Swift/Swallow cups; the details of which should be agreed with the LA ecologist.

#### 6. LEGISLATION

#### 6.1 Otters and the Law.

- 6.1.1 The otter is a European Protected Species (EPS). It is against the law to damage or destroy an otter breeding site or resting place, or deliberately to capture, kill, injure or disturb an otter.
- 6.1.2 Otters are fully protected by the following pieces of legislation:
  - The Conservation of Habitats and Species Regulations 2017 (regulation 42) fully protects otters, making it an offence to:-
    - Intentionally or deliberately capture, injure or kill an Otter.
    - Damage or destroy a breeding or resting place of an Otter, or intentionally or recklessly damage or destroy any structure or place used for shelter or protection
    - Intentionally or recklessly disturb an Otter in a place used for shelter or protection, or deliberately disturb Otters in such a way as to be likely significantly to affect (i) the ability of any significant group of Otters to survive, breed, rear or nurture their young, or (ii) the local distribution or abundance.
    - Intentionally or recklessly obstruct access to a place used for shelter or protection.
    - Possess an Otter (alive or dead), or any part of an Otter
  - Schedule 5 of the Wildlife and Countryside Act 1981 (as amended by the CROW [Countryside Rights of Way] Act 2000) fully protects otters, making it an offence to:-
    - Intentionally or recklessly disturb any otter while it is occupying a structure or place which it uses for shelter or protection
    - Intentionally or recklessly obstructs access to any structure or place used by an otter for shelter or protection
    - Sell, offer or expose for sale any otter
- 6.1.3 For any disturbance to occur a derogation or **EPS licence** must be gained from Natural Resources Wales. To gain an EPS Licence from Natural Resources Wales (NRW), NRW must be satisfied that;
  - i. granting the licence would not be detrimental to the Favourable Conservation Status (fcs) of the populations of species concerned within its natural range.
  - ii. the derogation (licence) is in the public interest of Health and Safety or for other reasons of over-riding public interest, including those of a socio-economic nature or will have a benefit of primary importance to the environment.
  - **iii.** there is no satisfactory alternative to the derogation which would allow the described development to proceed but which would avoid or reduce the need for any adverse impact to the species.

# 6.1.4 Otters are also protected by;

- Natural Environment and Rural Communities Act 2006 and now the Environment (Wales) Act 2016.
- Annex II Habitats Directive (protection through Special Areas of Conservation)
- UK Biodiversity Action Plan Priority Species and Species of Principal Importance in Wales

# 6.2 Bats and the Law

#### 6.2.1 Bats are protected by the following pieces of legislation:

- Schedule 5 and 6 of the Wildlife and Countryside Act 1981 (as amended by the CROW [Countryside Rights of Way] Act 2000)
- The Environmental Damage (Prevention & Remediation) Regulations 2009 A protected species and its habitat is protected under this legislation as well as others.
- The Conservation of Habitats and Species Regulations 2017 (regulation 42) fully protects all bats and their roosts, making it an offence to deliberately kill, injure or capture (take) bats; to deliberately disturb bats; damage or destroy bat roosts or resting places (this is considered an "Absolute Offence" as damage and destruction may detrimentally effect the Continuous Ecological Functionality of that roost / resting place); possess or transport a bat or any part of a bat; sell (or offer for sale) or exchange bats or parts of bats.
- For any disturbance to occur a derogation or EPS licence must be gained from Natural Resources Wales. To gain an EPS Licence from Natural Resources Wales (NRW), NRW must be satisfied that;
  - i. the licence would not be detrimental to the Favourable Conservation Status (fcs) of the populations of species concerned within its natural range.
  - ii. the derogation (licence) is in the public interest of Health and Safety or for other reasons of over-riding public interest, including those of a socio-economic nature or will have a benefit of primary importance to the environment.
  - iii. there is no satisfactory alternative to the derogation which would allow the described development to proceed but which would avoid or reduce the need for any adverse impact to the species.

# 6.2.2 Bats are also protected by;

- Appendix III of the Bern Convention
- Appendix II of the Bonn Convention (including the Convention's Agreement on the conservation of Bats in Europe)
- Natural Environment and Rural Communities Act 2006 and now the Environment (Wales) Act 2016.

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 All bats are listed in Annex IV of the EC Habitats Directive and the British species listed in Schedule 2 of the Habitats Regulations 1994 (as amended) and are therefore designated as European Protected Species. These protected species are afforded enhanced protection and more stringent licensing provisions than those protected by the Wildlife and Countryside Act (WACA) alone.

# 6.3 The Hazel Dormouse and the Law

- 6.3.1 The hazel dormouse is a European Protected Species (EPS). It is against the law to damage or destroy a dormouse breeding site or resting place (summer or hibernation nest), or deliberately to capture, kill, injure or disturb a dormouse.
- 6.3.2 Dormice are fully protected by the following pieces of legislation:
  - The Conservation of Habitats and Species Regulations 2017 (regulation 42) fully protects dormice, making it **an offence to**:-
    - Intentionally or deliberately capture, injure or kill a dormouse.
    - Damage or destroy a breeding or resting place of a dormouse, or intentionally or recklessly damage or destroy any structure or place used for shelter or protection
    - Intentionally or recklessly disturb a dormouse in a place used for shelter or protection, or deliberately disturb dormouse in such a way as to be likely significantly to affect (i) the ability to survive, breed, rear or nurture their young, and includes in the case of animals of a hibernating or migratory species, to hibernate or migrate or (ii) the local distribution or abundance.
    - Intentionally or recklessly obstruct access to a place used for shelter or protection.
    - Possess a dormouse (alive or dead), or any part of a dormouse
  - Schedule 5 of the Wildlife and Countryside Act 1981 (as amended by the CROW [Countryside Rights of Way] Act 2000) fully protects dormice, making it an offence to:-
    - Intentionally or recklessly disturb any dormouse while it is occupying a structure or place which it uses for shelter or protection
    - Intentionally or recklessly obstructs access to any structure or place used by a dormouse for shelter or protection
    - Sell, offer or expose for sale any dormouse
- 6.3.3 For any disturbance to occur a derogation or **EPS licence** must be gained from Natural Resources Wales. To gain an EPS Licence from Natural Resources Wales (NRW), NRW must be satisfied that;
  - i. granting the licence would not be detrimental to the Favourable Conservation Status (fcs) of the populations of species concerned within its natural range.



- ii. the derogation (licence) is in the public interest of Health and Safety or for other reasons of over-riding public interest, including those of a socio-economic nature or will have a benefit of primary importance to the environment.
- iii. there is no satisfactory alternative to the derogation which would allow the described development to proceed but which would avoid or reduce the need for any adverse impact to the species.

# 6.3.4 Dormice are also protected by;

- Natural Environment and Rural Communities Act 2006 (England) and the Environment (Wales) Act 2016.
- Annex II Habitats Directive (protection through Special Areas of Conservation)
- UK Biodiversity Action Plan Priority Species and Species of Principal Importance in Wales

#### 6.4 Reptiles and the Law

- 6.4.1 All of the UK native reptiles are protected by law. The common species of reptiles found in this locality are common lizard, slow-worm, adder and grass snake. It is illegal to intentionally kill or injure these species under Section 9 (1) of the Wildlife and Countryside Act 1981 (as amended).
- 6.4.2 All native UK reptiles are considered of 'principle importance' under Section 7 of the Environment (Wales) Act 2016. This places a duty on every public authority, in exercising its functions, to have regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity.
- 6.4.3 Under the National Planning Policy Framework (NPPF April 2012), the presence of any Protected Species (which includes all reptiles species) are a material planning consideration. The ODPM 06/2005: Biodiversity and Geological Conservation Statutory Obligations and Their Impact within the Planning System, provide additional advice and support the NPPF.

## 6.5 Amphibians and the Law

- 6.5.1 All of the UK native amphibians are protected by law. The common species of amphibians in this locality are common frog, common toad, smooth newt and palmate newt. It is illegal to intentionally kill or injure these species under Section 9 (1) of the Wildlife and Countryside Act 1981 (as amended).
- 6.5.2 The common toad is considered of 'principle importance' under Section 7 of the Environment (Wales) Act 2016. This places a duty on every public authority, in exercising its functions, to have regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity.

6.5.3 Under the National Planning Policy Framework (NPPF April 2012), the presence of any Protected Species (which includes the Common Toad) are a material planning consideration. The ODPM 06/2005: Biodiversity and Geological Conservation — Statutory Obligations and Their Impact within the Planning System, provide additional advice and support the NPPF.

#### 6.6 Birds and the Law

- 6.6.1 All species of bird are protected under Section 1 of the Wildlife and Countryside Act 1981 (as amended). Protection was extended by the Countryside and Rights of Way (CRoW) Act 2000. Under the above legislation it is an offence 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.
- 6.6.2 Certain species are listed on Schedule 1 of the Wildlife and Countryside Act 1981 (as amended) and receive protection under Sections 1(4) and 1(5). The protection was extended by the Countryside and Rights of Way (CRoW) Act 2000. There are special penalties where the offences listed above are committed for any Schedule 1 species and it is also an offence to intentionally or recklessly:
  - disturb any such bird when it is building its nest or while it is in or near a nest containing dependant young; or
  - disturb the dependant young of any such bird.

# 6.7 Badgers and the Law

6.7.1 The protection of Badgers Act 1992 makes it illegal to kill, injure or take a badger, or interfere with a sett. In addition, they are listed on Schedule 6 of the Wildlife & Countryside Act 1981, which prohibits certain methods of killing and capture.

# 6.8 Water Voles and the Law

- 6.8.1 Water voles are listed under Schedule 5 of the Wildlife & Countryside Act 1981, receiving full protection since 2008. The Wildlife & Countryside Act 1981 (as amended), lists the following offences:-
  - Intentionally kill, injure or take water voles (Section 9 (1)).
  - Possess or control live or dead water voles or derivatives (Section 9 (2)).
  - Intentionally or recklessly damage, destroy or obstruct access to any structure or place used for shelter or protection (Section 9 (4) (a & c)).
  - Intentionally or recklessly disturb water voles whilst occupying a structure or place used for that purpose (Section 9 (4) (b)).



- Sell water voles or offer or expose for sale or transport for sale (Section 9 (5)).
- Publish or cause to be published any advertisement which conveys the buying or selling of water voles (Section 9 (5)).

# 6.9 Environment Act (Wales) 2016

- 6.9.1 This act has replaced the section 40 duty in the Natural Environment and Rural Communities Act 2006 (NERC Act 2006), in relation to Wales, and applies to those authorities that fell within the previous duty. It came into force in May 2016.
- 6.9.2 Section 6 of the Act places a duty on public authorities to 'seek to maintain and enhance biodiversity' so far as it is consistent with the proper exercise of those functions. In so doing, public authorities must also seek to 'promote the resilience of ecosystems'. Under Section 6 public authorities will be required to report on the actions they are taking to improve biodiversity and promote ecosystem resilience.
- 6.9.3 Section 7 of the Act places a duty on public authorities to take steps to maintain and enhance biodiversity. This section replaces the duty in section 42 of the NERC Act 2006. The Section 7 Priority Species under this act is a list of the living organisms of principal importance for the purpose of maintaining and enhancing biodiversity in relation to Wales. The Section 7 Priority Habitats is a list of the habitats of principal importance for the purpose of maintaining and enhancing biodiversity in relation to Wales.



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We confirm that in preparing this Report we have exercised reasonable skill and care, taking into account the project objectives, the agreed scope of the work and prevailing site conditions.

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The findings and advice given during the course of this survey is provided by employees of I&G Ecological Consulting acting only on behalf of I&G Ecological Consulting.

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# 9. Representative Species List

	Target note						
	TN	TN	TN6	TN7	TN8	TN	TN 11
	1-3	4-5				9&10	
Common bent <i>Agrostis capillaris</i>			F	_			
Cock's foot Dactylis glomerata		0	0				
<b>Deschampsia</b> Tufted hair grass <i>D. cespitosa</i>			0				
False oat grass Arrhenatherum elatius			0				
Fescue Red fescue Festuca rubra	Α	F	0				
Sheep's Fescue <i>Festuca ovina</i>					0		
Holcus Yorkshire fog H. lanatus	D	D	F				
Purple moor grass Molinia caerulea	0						
Rye grass <i>Lolium perenne</i>		0					
Sweet Grass Floating Glyceria fluitans	F						
Common yellow sedge Carex demissa	0						
Oval sedge Carex ovalis	F						
Remote sedge Carex remota					0		F
Star sedge Carex echinata	F						
Compact rush J. congloeratus		0					
Sharp flowered rush J. acutiflorus	F						
Soft rush Juncus effusus	Α	F			0		
Toad rush <i>J. bufonius</i>	0						
Field horsetail Equisetum arvense			0		0		
Angelica Angelica sylvestris	F						
Birds foot trefoil <i>Lotus corniculatus</i>	Α						
Marsh bedstraw Galium palustre	F						
Blinks Montia fontana	0						
Hairy bittercress Cardamine hirsuta	R						
Cats ear Hypochaeris radicata	R						

Creeping buttercup Ranunculus repens  Chickweed Stellaria media  O  White clover Trifolium repens  Cuckoo flower Cardamine pratensis  O  Broad leaved dock Rumex obtusifolius  Clustered dock Rumex conglomeratus  F	O O					
White clover Trifolium repens  Cuckoo flower Cardamine pratensis  O  Broad leaved dock Rumex obtusifolius						
Cuckoo flower Cardamine pratensis  O  Broad leaved dock Rumex obtusifolius						
Broad leaved dock Rumex obtusifolius	0				i	1
	0					
Clustered dock Rumex conglomeratus F						
1						
Enchanter's nightshade Circaea lutetiana				0		
Fleabane Pulicaria dysenterica		0				
Foxglove Digitalis purpurea O			F			
Goldenrod Solidago vigaurea						0
Ground elder Aegopodium podagraria				Α		
Ground ivy Glechoma hederacea				F		
Hedge woundwort Stachys sylvatica		0		0		
Hemlock waterdropwort <i>Oenanthe crocata</i>						
Common hemp nettle Galeopsis tetrahit O						
Hemp agrimony Eupatorium cannabinum O						
Herb Robert Geranium robertianum		0		F		
Hogweed Heracleum sphondylium	0	0				
Honeysuckle Lonicerapericlymenum				0		0
Ivy Hedera helix	0		F	Α		Α
Ivy leaved crowfoot Ranunculus hederaceus O						
Common knapweed Centaurea nigra	0					
Marsh pennywort <i>Hydrocotyle vulgaris</i>						
Nettle <i>Urtica dioica</i>	F		F	F		
Nipplewort Lapsana communis				0		
Ribwort <b>Plantain</b> Plantago lanceolata	0					
Ragged robin Silene flos-cuculi A						
Marsh ragwort Jacobaea aquatica O						
Water pepper Persicaria hydropiper O						
Selfheal Prunella vulgaris O						

Common sorrel Rumex acetosa	0					
Spearwort Ranunculus flamula	F					
Prickly <b>sow thistle</b> Sonchus asper	0					
Marsh St John's-wort Hypericum elodes	0					
Wild strawberry <i>Fragaria vesca</i>	0	0				
Creeping <b>thistle</b> Cirsium arvense		0				
Marsh thistle Cirsium palustre	0					
Spear <b>thistle</b> Cirsium vulgare		0				
Water mint <i>Mentha aquatica</i>	О					
Marsh willowherb <i>Epilobium palustre</i>	О	0				
Short fruited willowherb <i>Epilobium obscurum</i>	О	0	0			
Common <b>vetch</b> Vicia sativa					0	
Wood sage	R				0	
Himalayan balsam <i>Impatiens glandulifers</i>	0	F	0	F	0	F
Japanese knotweed <i>Fallopia japonica</i>		0			0	
Alder Alnus glutinosa			R			
Ash Fraxinus excelsior				F		
Beech Fagus sylvatica				0		
Downy birch Betula pubescens	0					
Silver birch Betula pendula				R	0	F
Blackthorn <i>Prunus spinose</i>		R	D		F	
Bramble Rubus fruticosus agg	0	0	Α	Α	Α	F
Crab apple Malus sylvestris						0
Elder Sambucus nigra						0
Hazel Corylus avellana			F	О	0	0
Holly Ilex aquifolium				F	0	F
Horse chestnut Aesculus hippocastanum					R	
Hawthorn <i>Crataegus monogyna</i>			Α	О	F	F
English oak <i>Quercus robur</i>						0
Sessile oak <i>Quercus petraea</i>	R			D	F	D
						 1

Privet Ligustrum vulgare				0			
							_
Rowan Sorbus aucuparia							F
Sycamore Acer pseudoplatanus				F			0
Grey willow Salix cinerea	0	0	0	F	F		F
Dog rose Rosa canina		R	0		0		0
Broad buckler fern <i>Dryopteris dilatata</i>			F	F	F	F	F
Narrow buckler fern <i>Dryopteris carthusiana</i>						0	
Hard fern Struthiopteris spicant				F		F	F
Hart's tongue Fern Asplenium scolopendrium			0		F		
Borrers Scaly male fern <i>Dryopteris borreri</i>	R						
Lady Fern Athyrium felix femina			F	F			F
Maidenhair Spleenwort Asplenium trichomanes							
Soft shield fern Polystichum setiferum			F				
Pointed spear moss Caliergonella cuspidata	0						
Bank hair cap Polytrichum formosum				F	0		R
Springy turf moss Rhytidiadelphus squarrosus							
Common striated feather moss Eurhynchium striatum							0
Polytrichum commune	0						
Nees Pellia <i>Pellia neesiana</i>						F	
Catherine's moss Atrichum undulatum						F	
Elegant silk moss Pseudotaxiphyllum elegans						F	F
Common Tamarisk moss <i>Thuidium tamariscinum</i>							0

# 10. SEWBReC Data Search

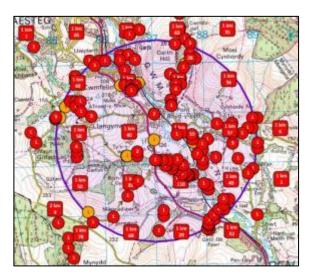
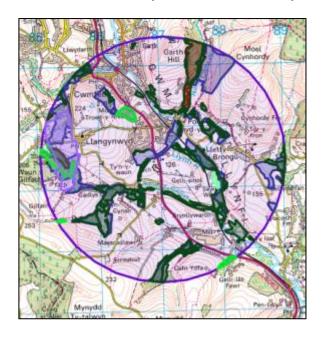


Fig. 17. SEWBReC Protected Species Data Search 24<sup>th</sup> April 2020



Site Type	Key	Number of sites	Category	Intersection Area	Percentage of search area	Display
Site of Special Scientific Interest		1	National - Statutory	173,043 m <sup>2</sup>	1.39%	On [
Wildlife Site / SINC (Adopted)		15	Local - Non-statutory	1,638,568 m <sup>2</sup>	13.12%	On
Ancient Semi Natural Woodland		46	Priority Area	996,018 m <sup>2</sup>	7.97%	On
Restored Ancient Woodland Site		6	Priority Area	150,150 m <sup>2</sup>	1.20%	On
Plantation on Ancient Woodland Site		1	Priority Area	35,626 m <sup>2</sup>	0.29%	On
Ancient Woodland Site of Unknown Category		2	Priority Area	12,317 m <sup>2</sup>	< 0.01%	On
NRW Priority Area (Woodland - PAWS)		1	Priority Area	35,626 m <sup>2</sup>	0.29%	On
NRW Priority Area (Heathland and Grassland)		1	Priority Area	424,982 m <sup>2</sup>	3.40%	On

Fig. 18. SEWBReC Protected Sites Data Search 24<sup>th</sup> April 2020

Fig. 19 Phase 1 Habitat Plan.



Colour	Code	Description
SI	B6	Poor semi-improved grassland
	B5	Marshy grassland
	J2.3.2	Native Hedges & Trees
	A1.1.1	Broadleaf woodland
	A2.1	Dense continuous scrub
*	INNS	Japanese knotweed

Phase 1 Habitat Code Key: