

**Malthouse Farm Solar  
Development, Llantrisant**  
Preliminary Ecological Appraisal

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## 1 Summary

<b>Report purpose</b>	Ecological site assessment for proposed solar array.
<b>Client and commission date</b>	Infinite Renewables Group Ltd (Bridgend); 15 August 2019.
<b>Date and methods of survey</b>	An Extended Phase 1 habitat survey and habitat suitability assessment for marsh fritillary was completed by Caroline O'Rourke on 29 August. The site was revisited on 7 November 2019 (following an update to the Site boundary and change in the proposed development area) as part of a Preliminary Ecological Appraisal.
<b>Key findings</b>	<p>The Site largely comprises improved and poor semi-improved grassland, which is considered to be of low ecological value and present minimal ecological constraints to development .</p> <p>The Site is bordered by hedgerows and includes two hedgerows, a ditch and small areas of marshy grassland. These habitats are considered to be of greater ecological interest and have potential to support protected species including badger, bats, birds, dormouse and reptiles.</p>
<b>Potential impacts</b>	<p>Dependent on the final design, the development has the potential to impact on protected species including badger, bats, birds, dormouse and reptiles.</p> <p>If the development is to involve the removal sections of hedgerow, there is likely to be a requirement to complete surveys for hazel dormouse. If this species is present a European Protected Species Mitigation (EPSM) licence may be required to enable works to take place.</p> <p>Given the proposed location of the array and existing farm access hedgerow or tree removal is unlikely to be required. However, in accordance with industry standard guidance, removal of trees with low potential for roosting bats should be undertaken under a precautionary method statement.</p> <p>The development also has the potential to result in pollution events during the construction phase.</p>

<p><b>Measures to avoid and / or reduce impacts</b></p>	<p>The improved and poor semi-improved grassland are of low ecological value and pose no significant issues to development. Small areas of local flushing at Target Note (TN) 1 support marshy grassland. These are species-poor, dominated by soft rush <i>Juncus effusus</i>, and of low ecological value but may support low numbers of reptiles (of higher ecological value and protected against killing and injury).</p> <p>A small area of purple moor-grass and rush pasture, a 'Priority Habitat' under Section 7 of the Environment (Wales) Act 2016, is present just outside the Site at TN2 (see <b>Figure 1</b> and Appendix 1). This grassland includes occasional devil's bit scabious, the larval food plant of the marsh fritillary butterfly. It is recommended that this area is retained and protected during construction..</p> <p>All hedgerows should be retained with a suitable protective buffer to reduce the risk of damage to the habitat and harm to any wildlife using it and to maintain the existing ecological resource post-development.</p> <p>Standard measures for pollution prevention should be outlined in a Construction Environmental Management Plan (CEMP) or appropriate method statement and adhered to during all phases of the development for the purposes of legislative compliance.</p>
<p><b>Opportunities for biodiversity enhancement</b></p>	<p>Current policy and legislation puts a duty on public authorities and developers to not only maintain biodiversity, but also include enhancements for nature conservation and biodiversity (see Appendix 2, paragraphs 8.1 – 8.14).</p> <p>Enhancement measures might include:</p> <ul style="list-style-type: none"> <li>• Improved management of hedgerows (including laying of outgrown hedgerows and less intensive management of those currently flailed) ) and marshy grassland.</li> <li>• Increasing the diversity of the improved / semi-improved grassland through over sowing and better grassland management.</li> <li>• Habitat creation for reptiles. This may include simple structures such as hibernacula and grass snake egg laying heaps, and / or reduced management of grassland along boundaries and ditches.</li> </ul>
<p><b>Potential further survey or consultation requirements</b></p>	<p>The requirement for further survey is largely dependent on the final design of the development.</p> <p>If hedges are retained and buffered, the requirement for further survey for reptiles is likely to be obviated and a precautionary habitat manipulation method statement for the removal of longer vegetation will likely be sufficient.</p> <p>If hedgerows are to be removed or otherwise affected, dormouse surveys and a pre-works badger check are likely to be needed ahead of a planning application being submitted. If any trees with low potential to support roosting bats are to be removed or otherwise affected a precautionary method statement should be implemented.</p>

## 2 Introduction

2.1 BSG Ecology was commissioned on 15 August 2019 by Infinite Renewables Group Ltd (Bridgend) to undertake an Extended Phase 1 habitat survey of land at Malthouse Farm, Llantrisant (the "Site"). The Site is the proposed location of a new solar farm of approximately 2 ha.

### Site description

2.2 The Site is situated on the northern edge of Llantrisant, to the north of The Royal Mint complex, at Ordnance Survey Grid Reference ST 036 853. Farmland including a network of hedgerows and small woodland blocks surrounds the Site to the north, east and west, with Rhos Tonyrefail Site of Special Scientific Interest (SSSI) located approximately 80 m to the south-west at its closest point.

2.3 The Site is illustrated on **Figure 1**. Current land use includes pasture used for grazing and silage production and a recently constructed single wind turbine.

### Aims of study

2.4 The aims of the extended Preliminary Ecological Appraisal are to:

- Summarise biological records obtained during the desk study.
- Describe and evaluate habitats and features present within the Site, and assess their potential to support protected species.
- Produce ecological information required to support a planning application for the proposed scheme.
- Make recommendations for further survey work and / or mitigation measures as appropriate.

### 3 Methods

#### Desk study

- 3.1 A desk based study was undertaken to collate existing ecological information on the Site and its wider ecological context. Table 1 summarises the sources that were consulted:

**Table 1:** Desk study resources

Data source	Date accessed / received	Description of information / data reviewed
MAGIC ( <a href="http://www.magic.defra.gov.uk">www.magic.defra.gov.uk</a> )	02/09/2019	Statutory designated sites within 1 km of Site.
Lle ( <a href="http://lle.gov.wales">http://lle.gov.wales</a> )	18/09/2019	A search was made of the Ancient Woodland Inventory 2011 to identify ancient woodland within 1 km of the Site.
South East Wales Biodiversity Records Centre (SEWBRcC)	18/09/2019	A 2 km search area from the Site perimeter was adopted for Protected and Priority species and statutory and non-statutory designated sites. The search area was centered on Ordnance Survey Grid Reference ST 03649 85240.
Bing maps ( <a href="http://www.bing.com/maps">www.bing.com/maps</a> )	18/09/2019	A search was made for ponds within 500 m of the site using aerials and Ordnance Survey mapping.
Rhondda Cynon Taf County Borough Council Planning Portal	18/09/2019	Check for planning application for single wind turbine west of Area C, and check for associated protected species surveys.

#### Field survey

- 3.2 A summary of the surveys undertaken is provided in Table 2, below.

**Table 2:** Methods of field survey

Method	Date / personnel	Description of work completed
Extended Phase 1 habitat survey	29 August 2019 & 7 November 2019  Caroline O'Rourke	Identification and mapping of habitats in accordance with the categories and guidance described in the Handbook for Phase 1 Habitat Survey (JNCC, 2010). Assessment of habitats present and signs indicating presence and potential for the habitat to support protected or priority species.
Marsh fritillary <i>Euphydryas aurinia</i> habitat assessment	29 August 2019;  Caroline O'Rourke	Categorisation of habitat suitability as outlined in Fowles & Smith (2005).



**Limitations to methods**

- 3.3 No significant limitations affected the survey or desk study.

**Personnel**

- 3.4 Caroline O'Rourke ACIEEM, Senior Ecologist at BSG Ecology undertook the field survey. Caroline has worked as a professional ecologist since 2009 and is an experienced botanist and vegetation surveyor. She holds a Botanical Society of the British Isles (BSBI) Level 4 Certificate in Field Identification and has experience and training in National Vegetation Classification.

## 4 Results and Interpretation

4.1 In this section, the results of the desk study and field survey are brought together. Interpretation of the results, and an assessment of the potential impacts of the proposed development, is also included.

### Statutory Designated Sites

4.2 Two statutory designated sites lie within 1 km of the Site boundary: Rhos Tonyrefail Site of Special Scientific Interest (SSSI) and Llantrisant Common and Pastures SSSI.

4.3 A summary of the characteristics of the respective designations, including the reasons for their notification, is provided in Table 3 below.

**Table 3:** Statutory designated sites within 1 km

Site name and designation	Reasons for notification	Distance and direction from the Site	Potential impacts
Rhos Tonyrefail SSSI	Rhos Tonyrefail is a large lowland site of special interest for its marshy grassland, acid flush, species-rich neutral grassland, acid grassland, wet heath and blanket mire. The site is also of special interest for its population of marsh fritillary.	80 m south-west, and 750 m north of Site	None anticipated.
Llantrisant Common and Pastures SSSI	Llantrisant Common and Pastures is of special interest for its extensive area of predominantly acidic marshy grassland in a lowland setting and for smaller areas of species-rich neutral and acidic grassland and soligenous flush. It is also of special interest for populations of one nationally rare and one nationally scarce plant species; the liverwort <i>Scapania paludicola</i> and Cornish moneywort <i>Sibthorpia europaea</i> .	0.95 km south-east of Site	None anticipated.

### Non-statutory Designated Sites

4.4 One non-statutory designated site of ecological interest lies within 1 km of the Site: Y Gweira Pasture Wildlife Trust Reserve (WTR).

4.5 Y Gweira Pasture WTR is part of the Llantrisant Common and Pastures SSSI and is located at Ordnance Survey Grid Reference ST 052 849, approximately 1.4 km east of the Site. The WTR comprises marshy grassland and lowland wet heathland which supports breeding birds and a variety of invertebrates including butterflies.

### Habitats

4.6 The habitats present on Site are shown in Table 4 and illustrated in **Figure 1**. Photographs are included in Section 7 of this report and target notes are included in Appendix 1.

**Table 4:** Habitats and potential impacts on Site

Habitat	Preliminary Evaluation	Potential Impacts	Notes
Hedgerows	<p>The site is bordered by hedgerows, three are species poor and intensively managed by flailing and two are species rich and unmanaged with some mature trees.</p> <p>Species include common oak <i>Quercus robur</i>, holly <i>Ilex aquifolium</i> and hazel <i>Corylus avellana</i> with occasional elder <i>Sambucus nigra</i>, rowan <i>Sorbus aucuparia</i>, downy birch <i>Betula pubescens</i> and blackthorn <i>Prunus spinosa</i>.</p> <p>The hedgerows have connectivity to a woodland block in the SSSI to the west and hedgerow network in the wider landscape.</p>	The location of the proposed solar array is easily accessible via existing farm tracks, hedgerow removal is unlikely to be required.	<p>Several hedgerow trees have low potential for roosting bats.</p> <p>Potential for dormouse, nesting birds and commuting bats.</p> <p>Hedge bases with longer vegetation adjacent have some potential for reptiles.</p>
Improved grassland	Perennial rye-grass <i>Lolium perenne</i> dominated pasture with short sward and very limited herb diversity. Currently used for grazing and silage production.	Negligible.	None.
Marshy grassland	Marshy grassland at TN2 (just outside the Site) is closely mown and dominated by purple moor-grass <i>Molinia caerulea</i> and is moderately diverse with occasional tormentil <i>Potentilla erecta</i> , greater birds-foot trefoil <i>Lotus pedunculatus</i> , sharp-flowered rush <i>Juncus acutifloris</i> , slender St John's wort <i>Hypericum pulchrum</i> , marsh bedstraw <i>Galium palustre</i> and occasional marsh pennywort <i>Hydrocotyle vulgaris</i> in wetter areas. Devil's bit scabious <i>Succisa pratensis</i> is present but rare and frequent Yorkshire fog <i>Holcus lanatus</i> , creeping thistle <i>Cirsium arvense</i> and ribwort plantain <i>Plantago lanceolata</i> indicate some level of agricultural improvement has taken place.	Outside the Site, impacts unlikely.	Low potential for Marsh Fritillary.

	Two small areas of marshy grassland within the Site boundary indicate areas of localised flushing. Both are dominated by a mixture of soft rush <i>Juncus effusus</i> and coarse grasses (Yorkshire fog, rough meadow grass <i>Poa trivialis</i> , timothy <i>Phleum pratense</i> and cock's-foot <i>Dactylis glomerata</i> ). The area is of low botanical diversity with occasional marsh bedstraw, sharp flowered rush, lesser spearwort <i>Ranunculus flammula</i> , marsh thistle <i>Cirsium palustre</i> and creeping buttercup <i>Ranunculus repens</i> present.	Habitat loss / modification.	Unsuitable for marsh fritillary. Some potential for grass snake and amphibians.
Poor semi-improved grassland.	Low diversity grassland dominated by Yorkshire fog, cock's-foot, perennial rye grass and common bent <i>Agrostis capillaris</i> with occasional crested dog's tail <i>Cynosaurus cristatus</i> , timothy and scattered soft rush and rough meadow grass in places. Herb diversity is low and limited to a small number of common species including creeping buttercup <i>Ranunculus repens</i> , common mouse-ear <i>Cerastium fontanum</i> , creeping thistle and white clover <i>Trifolium repens</i> .	Harm to reptiles during vegetation removal / groundworks.	The majority of the sward is short and offers no cover or basking opportunities for reptiles; suitable habitat is limited to small areas along ditches and field boundaries.
Ditch	A small, shallow ditch is present to the east of the Site. This was very shallow at the time of survey, with no marginal or aquatic vegetation and encroaching bramble.	Pollution of watercourses / ditches during construction and post-construction phases.	Potential for grass snake and amphibians.
Scrub	Limited in extent, consisting of small areas of encroaching bramble along field boundaries and ditches.	Destruction of active bird nests during vegetation removal.	Some limited potential for nesting birds.

### Protected species

- 4.7 A screening opinion for a single 1.5MW wind turbine at Malthouse Farm was found during the search of the Rhondda Cynon Taf County Borough Council Planning Portal. The application summary<sup>1</sup> states that an Ecological Impact Assessment was not required for the proposed works, and there are no records of protected species surveys being carried out.
- 4.8 No species records were returned by SEWBRc from within the Site itself, nor was any evidence of protected species noted during the site walkover.
- 4.9 SEWBRc returned a total of seven hundred and sixty-three records for ninety-one different species. Key results<sup>2</sup> from the data search are summarised in Table 5; Consideration is given to these records and to the habitats present on Site to determine the potential for the Site to support

<sup>1</sup> The application summary can be found at [https://planningonline.rctcbc.gov.uk/online-applications/applicationDetails.do?activeTab=summary&keyVal= RHOND\\_DCAPR\\_44479](https://planningonline.rctcbc.gov.uk/online-applications/applicationDetails.do?activeTab=summary&keyVal= RHOND_DCAPR_44479)

<sup>2</sup> Sixty three records dated between 1500 and 1970 were omitted from the summary of key results as they were considered irrelevant due to their age. The majority of these records were for *Lepidoptera* species and birds.

protected species. Any potential impacts of the proposed development on these species are then considered.

**Table 5:** Protected species and potential impacts

<b>Species</b>	<b>Preliminary evaluation (desk study results and habitat suitability)</b>	<b>Potential Impacts</b>
Badger	<p>SEWBRc returned three records of badger within the search area. The nearest record is approximately 1.78 km south east of the Site.</p> <p>No setts or definitive field signs of badger were recorded during the survey. The boundary hedgerows and habitats in the wider landscape are suitable for sett building (particularly hedge banks and woodland). Open habitats within and immediately adjacent to the Site offer foraging opportunities for badger.</p>	<p>Removal of hedgerows is unlikely to be required as part of the proposed development. It is therefore considered that the development is unlikely to impact on badger setts.</p> <p>If the development does require the removal of hedgerows, further targeted survey or a pre-works check may be required (see Section 5).</p>

<p>Bats</p>	<p>Sixty-two records for bats were returned by SEWBRcC, including records for the following species: brown long-eared bat <i>Plecotus auritus</i>, common pipistrelle <i>Pipistrellus pipistrellus</i>, greater horseshoe bat <i>Rhinolophus ferrumequinum</i>, lesser horseshoe bat <i>Rhinolophus hipposideros</i>, noctule <i>Nyctalus noctula</i>, soprano pipistrelle <i>Pipistrellus pygmaeus</i> and whiskered bat <i>Myotis mystacinus</i>.</p> <p>Of these records, eighteen are for bat roosts. The nearest bat roost record is located approximately 0.28 km south of the Site. This record is for a single pipistrelle bat in 2012, roosting in an office block within Llantrisant Business Park.</p> <p>A further nine records for roosting bats (two for common pipistrelle between 2011 and 2014, six for soprano pipistrelle between 2008 and 2011, and one for brown long-eared bat in 2011) were returned from a farm approximately 0.86 km to the east.</p> <p>All other roost records were over 1 km from the Site boundary.</p> <p>The boundary hedgerows are suitable for foraging and commuting bats with good connectivity in the wider landscape via a hedgerow network, particularly to the south and west. The Site is therefore considered to be of moderate suitability for commuting and foraging bats based on industry standard guidance (BCT, 2016).</p> <p>Several hedgerow trees also have low potential for roosting bats based on industry standard guidance (BCT, 2016).</p>	<p>Hedgerow removal is unlikely to be required as part of the proposed development. It is therefore considered that impacts on commuting or foraging bats are unlikely.</p> <p>Similarly, removal of hedgerow trees is not likely to be required, and impacts on roosting bats are unlikely.</p> <p>If removal of trees with low potential for roosting bats (e.g. in the northern hedgerow) is required as part of the proposed development, this should be undertaken in accordance with a precautionary method statement. In the unlikely event a bat roost is discovered, works should stop until a European Protected Species Mitigation (EPSM) licence has been obtained.</p>
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Birds	<p>One hundred and ninety-five records of birds were returned by SEWBRc, including records for the following Schedule 1 species: barn owl <i>Tyto alba</i>, brambling <i>Fringilla montifringilla</i>, common crossbill <i>Loxia curvirostra</i>, fieldfare <i>Turdus pilaris</i>, goshawk, hobby <i>Falco subbuteo</i>, kingfisher <i>Alcedo atthis</i>, merlin, <i>Falco columbarius</i>, osprey <i>Pandion haliaetus</i>, red kite <i>Milvus milvus</i> and redwing <i>Turdus iliacus</i>.</p> <p>With the exception of one record for hobby from the Llantrisant Business Park approximately 0.36 km to the south, all bird records are from over 1 km from the Site.</p> <p>The hedgerows and trees within the Site provide some nesting opportunities for birds.</p>	<p>Removal of hedgerows and trees is unlikely to be required as part of the proposed development. Therefore it is unlikely that the proposed works will impact on nesting birds.</p> <p>However, if hedgerows and trees do need to be removed further survey may be required (see Section 5).</p>
Hazel Dormouse	<p>SEWBRc returned one records for hazel dormouse <i>Muscardinus avellanarius</i> within the search area. The record was over 2.5 km from the Site to the south east; connectivity to the Site is limited by industrial and residential areas.</p> <p>Some hazelnuts were inspected during the site walkover, but no evidence of dormouse (distinctive gnawing pattern) was observed.</p> <p>The hedges present on Site provide suitable habitat for dormouse There is good connectivity from the Site to surrounding woodland blocks, particularly on the western boundary.</p>	<p>The proposed development is not likely to require the removal of hedgerows. Therefore, it is unlikely that hazel dormouse will be impacted by the development.</p> <p>However, if hedges do need to be removed, further targeted survey and / or an EPSM licence may be required (see Section 5).</p>
Marsh Fritillary	<p>Ninety-eight records for marsh fritillary were returned by SEWBRc. The nearest of these (31 records) are from Llantrisant Common and Pastures SSSI, approximately 0.9 km east of the Site.</p> <p>The Site's potential to support marsh fritillary is limited. Habitat at TN2 (which is just outside the Site) is assessed as 'Suitable (Sparse)' according to Fowles &amp; Smith (2005)<sup>3</sup>.</p>	<p>Occasional devil's bit scabious, the foodplant of the marsh fritillary butterfly, is present in TN2. The extent of suitable habitat is limited, and it is in poor condition. There is some potential for the habitat at TN2 to support marsh fritillary in the future with a change in management, but current presence is very unlikely.</p>

<sup>3</sup> Descriptions for each habitat condition category are provided in Table 1 of Fowles & Smith (2005) (see Section 6 for full reference). 'Potential (Rank)' is defined as grassland with rare *Succissa pratensis* which is currently under-grazed or neglected such that the sward is above 25cm on average and *Succissa* occurs as scattered plants, usually in a rank, tussocky sward. 'Suitable (Sparse)' is defined as grassland with sparse (rare – occasional) *Succissa* and vegetation height less than 25 cm on average.

<p>Reptiles and amphibians</p>	<p>Thirty-four records for reptiles were returned by SEWBRc including for adder <i>Vipera berus</i>, common lizard <i>Zootica vivipara</i>, grass snake <i>Natrix helvetica</i> and slow worm <i>Anguis fragilis</i>.</p> <p>The nearest of these records (24 records) are from Llantrisant Common and Pastures SSSI, approximately which is situated to the east and south east of the Site. Connectivity from the SSSI to the Site is limited by industrial and residential areas.</p> <p>Longer vegetation across the Site, particularly alongside the hedges and ditch, provides suitable habitat for reptiles.</p> <p>No records for great crested newt <i>Triturus cristatus</i> were returned by SEWBRc.</p> <p>There are no ponds within or within 0.5 km of the Site; the nearest ponds are approximately 0.6 km north east.</p>	<p>Removal of vegetation, particularly of longer vegetation along hedgerows and ditches, has the potential to harm reptiles.</p> <p>If a buffer is maintained along hedgerows and ditches, it is likely that a precautionary habitat manipulation method statement for the removal of longer vegetation will likely be sufficient for planning purposes.</p> <p>However, if buffers around the hedgerows and ditches cannot be maintained as part of the proposed development, further targeted survey may be required.</p>
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## 5 Recommendations

- 5.1 The protection of habitats and species is referred to throughout this section. Further detail regarding relevant legislation is included in Appendix 2.

### Mitigation

#### *Habitats*

- 5.2 Habitat within the Site including hedgerows, a ditch and marshy grassland are of ecological interest due to their potential to support a range of protected species. Hedgerows are listed as a 'Priority Habitat' under Section 7 of the Environment (Wales) Act 2016, which requires the Welsh Government to take all reasonable steps to maintain and enhance them, and to encourage others to take such steps.
- 5.3 All hedgerows and ditches should be retained and a perimeter buffer included around them. The purpose of maintaining a buffer is to reduce the risk of harm to any animals using these features during all phases of the development and to protect the features themselves from accidental damage.
- 5.4 The in-field habitats are of low ecological value and pose no significant issues with regard to development.
- 5.5 A small area of purple moor-grass and rush pasture, a Section 7 'Priority Habitat' (Environment (Wales) Act 2016) including occasional devil's bit scabious, the marsh fritillary's larval food plant is present just to the south of the Site at TN2 (see **Figure 1** and Appendix 1). Impacts on this area of habitat should therefore be avoided.
- 5.6 Standard measures for pollution prevention should be outlined in a Construction Environmental Management Plan (CEMP) or appropriate method statement and adhered to during all phases of the development.

#### *Protected species*

- 5.7 The final design fix and intended scope of works will inform the requirement for additional ecological survey work necessary to support a planning submission for the Site. Further survey will help ensure legal compliance is achieved with regard to protected species, as well as identifying any opportunities for biodiversity gain.
- 5.8 In general, by avoiding impacts on the marshy grassland at TN2, the ditch and hedgerows, the requirement for further targeted species survey should be largely obviated. However, the following mitigation measures should be followed and further surveys (as described below) may be required depending on the intended scope of works.

#### **Badger**

- 5.9 A pre-works check should be carried out by a suitably experienced ecologist. This check would involve a walkover of the Site to identify the presence of any badger setts or evidence of use of the Site by badgers.
- 5.10 Appropriate measures to protect badgers will be put in place if required (i.e. if a sett is identified during the walkover survey).

#### **Bats**

- 5.11 If hedgerows are to be removed as part of the proposed development, depending on the extent of removal activity surveys for bats may be required. The purpose of these surveys would be to

characterise use of the Site by commuting and foraging bats, to inform an impact assessment for the proposed development on bats.

- 5.12 If any trees with low potential to support roosting bats are to be removed, this should be implemented under a precautionary method statement in accordance with industry standard guidance. If a bat roost is confirmed in any of the trees / tree limbs to be removed work to the tree will need to stop, until an EPSM licence has been obtained from Natural Resources Wales..

### **Birds**

- 5.13 It is recommended that no work with the potential to affect breeding birds (i.e. felling of trees, or removal of hedgerows, if required) is undertaken in the period April – August inclusive.
- 5.14 If this is not possible, a walkover survey should be completed by a suitably experienced ecologist to identify any active nests. In the event that nests are found, work in their immediate vicinity (that could result in the damage or destruction of the nest and / or young) will be suspended until the nest is no longer active.

### **Hazel dormouse**

- 5.15 If hedgerows are to be removed as part of the proposed development, surveys for dormouse may be required. The purpose of these surveys would be to identify presence or likely absence of dormouse within the Site. If presence is confirmed, and impacts on the hedgerow cannot be avoided, an EPSM licence will be required from Natural Resources Wales in order to proceed with the works.

### **Marsh fritillary**

- 5.16 We recommend that the development avoids the area of marshy grassland at TN2 which contains devil's bit scabious, the marsh fritillary's larval food plant. By avoiding these areas, there will be no impacts on marsh fritillary as a result of the development, and no mitigation will be required. No further survey for marsh fritillary is recommended.

### **Reptiles**

- 5.17 Buffers should be retained along hedgerows and ditches.. If buffers are retained, it is likely that a precautionary habitat manipulation method statement for the removal of longer vegetation will be sufficient and further targeted survey for reptiles is unlikely to be required.

### **Enhancements**

- 5.18 Current policy and legislation puts a duty on local authorities and developers to include enhancements for biodiversity and nature conservation and biodiversity where possible as part of any development (see Appendix 2, paragraphs 8.1 – 8.14).
- 5.19 Enhancement measures to benefit other species and encourage their use of the Site may include:
- Improving the quality of existing marshy grassland at TN2 for marsh fritillary. This may be achieved by altering the grazing regime and / or planting of suitable species such as purple moor-grass, devils bit scabious.
  - Increasing the area of marshy grassland for marsh fritillary, and increasing the diversity of the improved / semi-improved grassland using simple methods such as over sowing and better grassland management.
  - Improving management of hedgerows (including 'gapping up' of defunct hedges and relaxation of management of those currently flailed) and ditches.
  - Incorporating habitat enhancements for reptiles. This may include the creation of simple structures such as hibernacula and grass snake egg laying heaps, and / or reduced management of grassland along boundaries and ditches.

## 6 References

Fowles, A.P. and Smith, R.G. (2005) *Mapping the habitat quality of patch networks for the marsh fritillary *Euphydryas aurinia* (Rottemburg, 1775) (Lepidoptera, Nymphalidae) in Wales*. *Journal of Insect Conservation* (2006) 10:161–17. Available at [http://people.exeter.ac.uk/as675/art\\_10.1007\\_s10841-006-6291-6.pdf](http://people.exeter.ac.uk/as675/art_10.1007_s10841-006-6291-6.pdf) [Accessed 20/09/2019]

JNCC (2010) *Handbook for Phase 1 habitat survey - a technique for environmental audit*. Joint Nature Conservation Committee, Peterborough

## 7 Photographs

**Photograph 1:** Improved grassland



**Photograph 2:** Small flushed area dominated by soft rush (TN1)



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**Photograph 3: Small drainage ditch with bramble scrub**



**Photograph 4: Hedge with mature trees on northern boundary**





**Photograph 5: Species-poor flailed hedge on western site boundary**



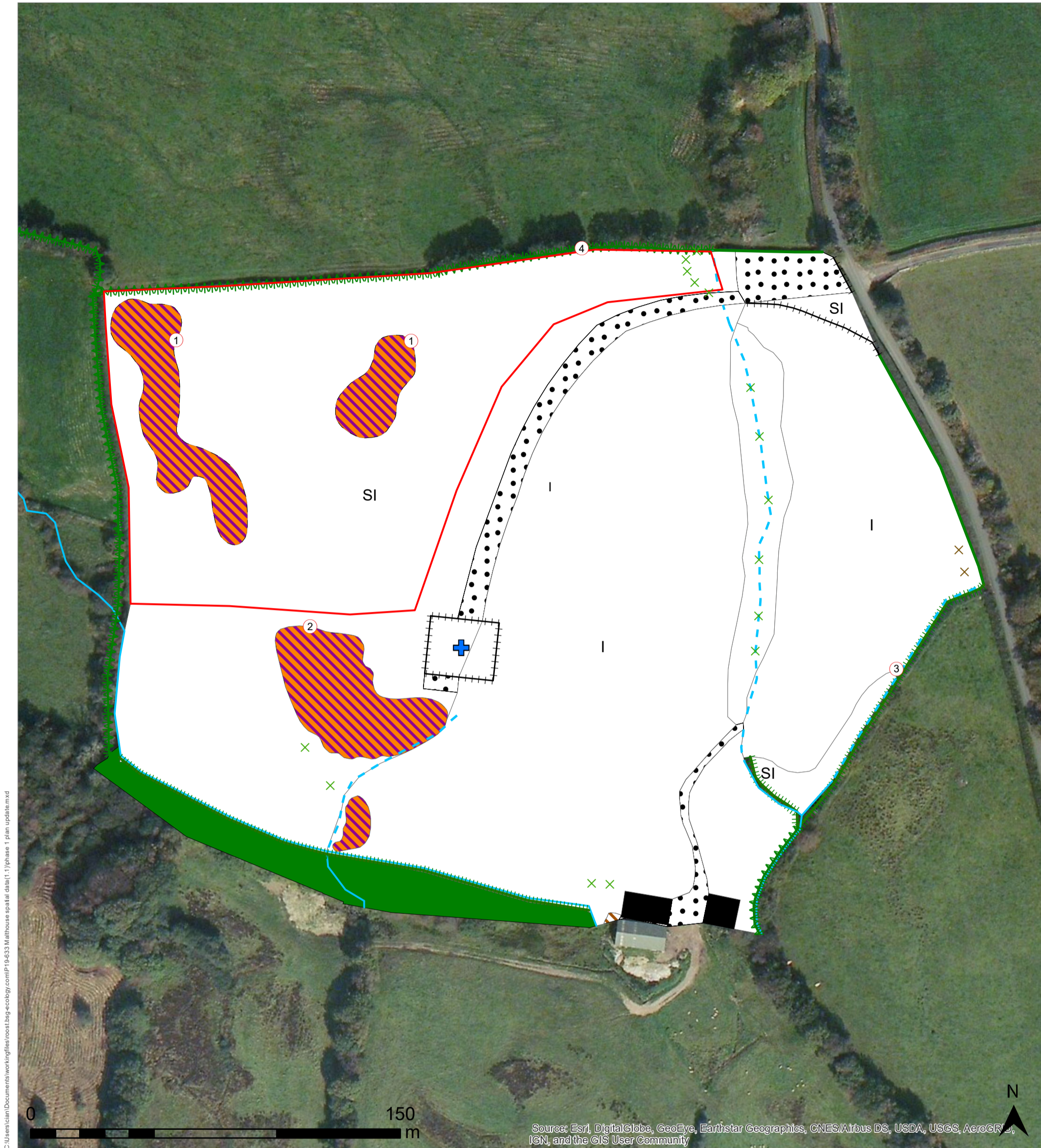
**Photograph 6:** Small area of marshy grassland with purple moor-grass, just outside southern site boundary (TN2)



## **8**      **Figures**

(overleaf)





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JOB REF: P19-663

PROJECT TITLE  
MALTHOUSE FARM, LLANTRISANT

DRAWING TITLE  
Figure 1: Phase 1 Habitat Plan




DATE: 20.11.2019      CHECKED: COR      SCALE: 1:1,500  
DRAWN: COH            APPROVED: OG        VERSION: 1.2

LEGEND

Site boundary	Running wayer	Bare ground
Scattered scrub	Species-poor intact hedge	Broadleaved semi-natural woodland
Scattered bracken	Species-poor defunct hedge	Building
Target note	Species-rich hedge with trees	Improved grassland
Turbine location	Species-poor hedge with trees	Marshy grassland
Fence	Dry ditch	Poor semi-improved grassland
		Tall ruderal



### Appendix 1: Target Notes

Target Note	Description	Photograph
1	<p>Small areas of localised flushing supporting species poor marshy grassland. Dominated by soft rush with very few herbs and signs of eutrophication including common nettles.</p>	
2	<p>Area of mown/grazed, <i>Molinia</i> dominated marshy grassland adjacent to wind turbine (outside survey area). Moderately diverse with occasional devil's bit scabious, tormentil, sharp flowered rush and marsh pennywort but also some signs of agricultural improvement.</p>	
3	<p>Mature oaks in outgrown hedgerow. No visible PRF from ground level. Low/negligible bat roost potential.</p>	

## Appendix 2: Summaries of Relevant Policy, Legislation and Other Instruments

This section briefly summarises the legislation, policy and related issues that are relevant to the main text of the report. The following text does not constitute legal or planning advice.

### Planning Policy Wales 10

8.1 PPW 10 seeks to sustain and create places in which...

- the role which landscapes, the historic environment, habitats and biodiversity, the characteristics of coastal, rural or urban environments play in contributing to Distinctive and Natural places are identified, understood, valued, protected and enhanced;
- further fragmentation of habitats is avoided, wherever possible, and green networks, corridors and connecting habitat within developed areas is protected, and enhanced;
- sites designated for their landscape or nature conservation importance are fully considered and their special characteristics and features protected and enhanced, whilst the network of sites should be recognised as being at the heart of improving the resilience of ecosystems;

8.2 Paragraph 6.4.4 states that

“It is important that biodiversity and resilience considerations are taken into account at an early stage in both development plan preparation and when proposing or considering development proposals. [.....] All reasonable steps must be taken to maintain and enhance biodiversity and promote the resilience of ecosystems and these should be balanced with the wider economic and social needs of business and local communities. Where adverse effects on the environment cannot be avoided or mitigated, it will be necessary to refuse planning permission.”

8.3 Paragraph 6.4.5 states that

“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. In doing so planning authorities must also take account of and promote the resilience of ecosystems.....

### TAN 5 Nature Conservation and Planning (Wales only)

8.4 Technical Advice Note (TAN) 5 supplements Planning Policy Wales and provides advice about how the land use planning system in Wales ‘should contribute to protecting and enhancing biodiversity and geological conservation.’

8.5 The TAN provides guidance to local planning authorities on: ‘the key principles of positive planning for nature conservation; nature conservation and Local Development Plans; nature conservation in development management procedures; development affecting protected internationally and nationally designated sites and habitats; and, development affecting protected and priority habitats and species.’

8.6 In section 2.4 when deciding planning applications that may affect nature conservation, ‘local authorities should:

- contribute to the protection and improvement of the environment...seeking to avoid irreversible harmful effects on the natural environment;
- ensure that appropriate weight is attached to designated sites of international, national and local importance;

- protect wildlife and natural features in the wider environment, with appropriate weight attached to priority habitats and species in Biodiversity Action Plans;
- ensure that all material considerations are taken into account and decisions are informed by adequate information about the potential effects of a development on nature conservation;
- ensure that the range and population of protected species is sustained;
- adopt a stepwise approach to avoid harm to nature conservation, minimise unavoidable harm by mitigation measures, offset residual harm by compensation measures and look for new opportunities to enhance nature conservation; where there may be significant harmful effects local planning authorities will need to be satisfied that any reasonable alternative sites that would result in less or no harm have been fully considered.'

8.7 At section 3.3.2 regarding Local Development Plans policies the guidance states that a policy should be included in respect of the application of the precautionary principle.

8.8 Section 4 includes specific and detailed guidance, expanding on the principles set out in 2.4, in respect of the development control process including pre-application discussions, preparing planning applications, requests for further information and ecology in respect of Environmental Impact Assessment (EIA). The broad principles of development control requirements are set out as follows:

- 'adopting the five-point approach to decision-making – information, avoidance, mitigation, compensation and new benefits;
- ensuring that planning applications are submitted with adequate information, using early negotiation, checklists, requiring ecological surveys and appropriate consultation;
- securing necessary measures to protect, enhance, mitigate and compensate through planning conditions and obligation;
- carrying out effective planning enforcement; and
- identifying ways to build nature conservation into the design of new development.'

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

8.9 The Environment (Wales) Act 2016 passed into law in March 2016. Part 1 of the Act sets out Wales' approach to planning and managing natural resources at a national and local level with a general purpose linked to statutory 'principles of sustainable management of natural resources' defined within the Act.

8.10 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*'. The duty replaces the section 40 duty in the Natural Environment and Rural Communities Act 2006 in relation to Wales, and applies to those authorities that fell within the previous duty.

8.11 Public authorities will be required to report on the actions they are taking to improve biodiversity and promote ecosystem resilience. This is expanded on in sub-section (2):

8.12 In complying with subsection (1), a public authority must take account of the resilience of ecosystems, in particular 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);
- the adaptability of ecosystems.

8.13 Section 7 concerns biodiversity lists and the duty to take steps to maintain and enhance biodiversity. It replaces the duty in section 42 of the NERC Act 2006. The Welsh Ministers will publish, review and revise lists of living organisms and types of habitat in Wales, which they consider are of key significance to sustain and improve biodiversity in relation to Wales.

8.14 The Welsh Ministers must also take all reasonable steps to maintain and enhance the living organisms and types of habitat included in any list published under this section, and encourage others to take such steps.

#### **European protected species (Animals)**

8.15 The Conservation of Habitats and Species Regulations 2017 (as amended) consolidates various amendments that have been made to the original (1994) Regulations which transposed the EC Habitats Directive on the Conservation of Natural Habitats and of Wild Fauna and Flora (Council Directive 92/43/EEC) into national law.

8.16 “European protected species” (EPS) of animal are those which are shown on Schedule 2 of the Conservation of Habitats and Species Regulations 2017 (as amended). They are subject to the provisions of Regulation 43 of those Regulations. All EPS are also protected under the Wildlife and Countryside Act 1981 (as amended). Taken together, these pieces of legislation make it an offence to:

- Intentionally or deliberately capture, injure or kill any wild animal included amongst these species
- Possess or control any live or dead specimens or any part of, or anything derived from a these species
- deliberately disturb wild animals of any such species
- deliberately take or destroy the eggs of such an animal, or
- intentionally, deliberately or recklessly damage or destroy a breeding site or resting place of such an animal, or obstruct access to such a place

8.17 For the purposes of paragraph (c), disturbance of animals includes in particular any disturbance which is likely—

- to impair their ability—
  - to survive, to breed or reproduce, or to rear or nurture their young, or
  - in the case of animals of a hibernating or migratory species, to hibernate or migrate; or
- to affect significantly the local distribution or abundance of the species to which they belong.

8.18 Although the law provides strict protection to these species, it also allows this protection to be set aside (derogated) through the issuing of licences. The licences in England are currently determined by Natural England (NE) for development works and by Natural Resources Wales in Wales. In accordance with the requirements of the Regulations (2017, as amended), a licence can only be issued where the following requirements are satisfied:

- The proposal is necessary ‘to preserve 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’
- ‘There is no satisfactory alternative’
- The proposals ‘will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range.

**Definition of breeding sites and resting places**

- 8.19 Guidance for all European Protected Species of animal, including bats and great crested newt, regarding the definition of breeding and of breeding and resting places is provided by The European Council (EC) which has prepared specific guidance in respect of the interpretation of various Articles of the EC Habitats Directive.<sup>4</sup> Section II.3.4.b) provides definitions and examples of both breeding and resting places at paragraphs 57 and 59 respectively. This guidance states that ‘The provision in Article 12(1)(d) [of the EC Habitats Directive] should therefore be understood as aiming to safeguard the ecological functionality of breeding sites and resting places.’ Further the guidance states: ‘It thus follows from Article 12(1)(d) that such breeding sites and resting places also need to be protected when they are not being used, but where there is a reasonably high probability that the species concerned will return to these sites and places. If for example a certain cave is used every year by a number of bats for hibernation (because the species has the habit of returning to the same winter roost every year), the functionality of this cave as a hibernating site should be protected in summer as well so that the bats can re-use it in winter. On the other hand, if a certain cave is used only occasionally for breeding or resting purposes, it is very likely that the site does not qualify as a breeding site or resting place.’

**Birds**

- 8.20 All nesting birds are protected under Section 1 of the Wildlife and Countryside Act 1981 (as amended) which makes it an offence to intentionally kill, injure or take any wild bird or take, damage or destroy its nest whilst in use or being built, or take or destroy its eggs. In addition to this, for some rarer species (listed on Schedule 1 of the Act), it is an offence to disturb them whilst they are nest building or at or near a nest with eggs or young, or to disturb the dependent young of such a bird.
- 8.21 The Conservation of Habitats and Species Regulations 2017 (as amended) places duties on competent authorities (including Local Authorities and National Park Authorities) in relation to wild bird habitat. These provisions relate back to Articles 1, 2 and 3 of the EC Directive on the conservation of wild birds (2009/147/EC, ‘Birds Directive’<sup>5</sup>) (Regulation 10 (3)) requires that the objective is the ‘preservation, maintenance and re-establishment of a sufficient diversity and area of habitat for wild birds in the United Kingdom, including by means of the upkeep, management and creation of such habitat, as appropriate, having regard to the requirements of Article 2 of the new Wild Birds Directive...’ Regulation 10 (7) states: ‘In considering which measures may be appropriate for the purpose of security or contributing to the objective in [Regulation 10 (3)] Paragraph 3, appropriate account must be taken of economic and recreational requirements’.
- 8.22 In relation to the duties placed on competent authorities under the 2017 Regulations, Regulation 10 (8) states: ‘So far as lies within their powers, a competent authority in exercising any function [including in relation to town and country planning] in or in relation to the United Kingdom must use all reasonable endeavours to avoid any pollution or deterioration of habitats of wild birds (except habitats beyond the outer limits of the area to which the new Wild Birds Directive applies).’

**Badger**

- 8.23 Badger is protected under the Protection of Badgers Act 1992. It is not permitted to wilfully kill, injure, take, possess or cruelly ill-treat a badger, or to attempt to do so; or to intentionally or recklessly interfere with a sett. Sett interference includes disturbing badgers whilst they are occupying a sett, as well as damaging or destroying a sett or obstructing access to it. A badger sett is defined in the legislation as “a structure or place, which displays signs indicating current use by a badger”.
- 8.24 ODPM Circular 06/2005<sup>6</sup> provides further guidance on statutory obligations towards badger within the planning system. Of particular note is paragraph 124, which states that “The likelihood of

<sup>4</sup> Guidance document on the strict protection of animal species of Community interest under the Habitats Directive 92/43/EEC. (February 2007), EC.

<sup>5</sup> 2009/147/EC Birds Directive (30 November 2009. European Parliament and the Council of the European Union.

<sup>6</sup> ODPM Circular 06/2005. *Government Circular: Biodiversity and Geological Conservation – Statutory Obligations and their Impacts within the Planning System* (2005). HMSO Norwich.

disturbing a badger sett, or adversely affecting badgers' foraging territory, or links between them, or significantly increasing the likelihood of road or rail casualties amongst badger populations, are capable of being material considerations in planning decisions."

- 8.25 Natural England provides Standing Advice<sup>7</sup>, which is capable of being a material consideration in planning decisions. Natural England recommends mitigation to avoid impacts on badger setts, which includes maintaining or creating new foraging areas and maintaining or creating access (commuting routes) between setts and foraging/watering areas.

### Reptiles

- 8.26 All native reptile species receive legal protection in Great Britain under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). Viviparous lizard, slow-worm, grass snake and adder are protected against killing, injuring and unlicensed trade only. Sand lizard and smooth snake receive additional protection as "European Protected species" under the provisions of the Conservation of Habitats and Species Regulations 2017 (as amended) and are fully protected under the Wildlife and Countryside Act 1981 (as amended).
- 8.27 All six native species of reptile are included as 'species of principal importance' for the purpose of conserving biodiversity under Section 41 (England) of the NERC Act 2006 and Section 7 of the Environment (Wales) Act 2016.
- 8.28 Current Natural England Guidelines for Developers<sup>8</sup> (standard industry guidance for the UK including Wales) states that 'where it is predictable that reptiles are likely to be killed or injured by activities such as site clearance, this could legally constitute intentional killing or injuring.' Further the guidance states: 'Normally prohibited activities may not be illegal if 'the act was the incidental result of a lawful operation and could not reasonably have been avoided'. Natural England 'would expect reasonable avoidance to include measures such as altering development layouts to avoid key areas, as well as capture and exclusion of reptiles.'
- 8.29 The Natural England Guidelines for Developers state that 'planning must incorporate two aims where reptiles are present:
- To protect reptiles from any harm that might arise during development work;
  - To ensure that sufficient quality, quantity and connectivity of habitat is provided to accommodate the reptile population, either on-site or at an alternative site, with no net loss of local reptile conservation status.'

### Wild mammals in general

- 8.30 The Wild Mammals (Protection) Act 1996 (as amended) makes provision for the protection of wild mammals from certain cruel acts, making it an offence for any person to intentionally cause suffering to any wild mammal. In the context of development sites, for example, this may apply to rabbits in their burrows.

### Hedgerows

- 8.31 Article 10 of the Habitats Directive<sup>9</sup> requires that 'Member States shall endeavour...to encourage the management of features of the landscape which are of major importance for wild fauna and flora. Such features are those which, by virtue of their linear and continuous structure...or their function as stepping stones...are essential for the migration, dispersal and genetic exchange of wild species'. Examples given in the Directive include traditional field boundary systems (such as hedgerows).

<sup>7</sup> <http://www.naturalengland.org.uk/ourwork/planningdevelopment/spatialplanning/standingadvice/specieslinks.aspx>

<sup>8</sup> English Nature, 2004. *Reptiles: guidelines for developers*. English Nature, Peterborough. <https://webarchive.nationalarchives.gov.uk/20150303064706/http://publications.naturalengland.org.uk/publication/76006>

<sup>9</sup> Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora.

- 8.32 The aim of the Hedgerow Regulations 1997<sup>10</sup>, according to guidance produced by the Department of the Environment<sup>11</sup>, is “to protect important hedgerows in the countryside by controlling their removal through a system of notification. In summary, the guidance states that the system is concerned with the removal of hedgerows, either in whole or in part, and covers any act which results in the destruction of a hedgerow. The procedure in the Regulations is triggered only when land managers or utility operators want to remove a hedgerow. The system is in favour of protecting and retaining ‘important’ hedgerows.
- 8.33 The Hedgerow Regulations set out criteria that must be used by the local planning authority in determining which hedgerows are ‘important’. The criteria relate to the value of hedgerows from an archaeological, historical, wildlife and landscape perspective.

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<sup>10</sup> Statutory Instrument 1997 No. 1160 – The Hedgerow Regulations 1997. HMSO: London

<sup>11</sup> The Hedgerow Regulations 1997: a guide to the law and good practice, HMSO: London