
Mynydd Fforch Dwm Wind Farm
Naturalis Energy Developments Ltd
Appendix 9.2: Protected Species



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ANNEXES

Annex 1: Scientific Species Names

1 INTRODUCTION

- 1.1.1 This Technical Appendix has been prepared to accompany **Chapter 9: 'Ecology'** of the Environmental Statement ('ES') for the proposed Mynydd Fforch Dwm Wind Farm (hereafter 'Proposed Development').
- 1.1.2 It presents detailed methodologies and results of desk study and field surveys completed to establish baseline conditions with regards protected and notable species (bats which are considered separately in **Appendix 9.3**) and should be read with reference to the following figures (presented in Volume 2 of the ES:
- **Figure 9.1:** Ecological Statutory Designated Sites.
 - **Figure 9.2b:** Existing Ecological Records (Reptiles).
 - **Figure 9.2c:** Existing Ecological Records (Other Species).
 - **Figure 9.3:** Phase 1 Habitat Survey Plan.
 - **Figure 9.5a:** Reptile Survey Plan.
 - **Figure 9.5b:** Reptile Survey Results (*MFD area*).
 - **Figure 9.5c:** Reptile Survey Results (*MB area*).
 - **Figure 9.7:** Outline Habitat Management Plan Area.
 - **Confidential Figure C9.1:** Existing Ornithological Records (Sensitive).
- 1.1.3 Information considered sensitive (**Confidential Figure C9.1**) will not be made publicly available but will be provided to Natural Resources Wales (NRW) and Neath Port Talbot County Borough Council.
- 1.1.4 Only common species names are used throughout this Appendix. Scientific names for all species referenced are supplied in **Annex 1**.

2 METHODOLOGY

2.1 Objectives

- 2.1.1 The objective of the baseline studies was to establish the presence and spatial distribution of protected and notable species which may be impacted by the Proposed Development.

2.2 Desk Study

- 2.2.1 The desk study has included a review of the following key sources summarised in **Table 2.1**.
- 2.2.2 Additional peer reviewed literature and industry guidance has also been reviewed and is referred to where relevant.

Table 2.1: Desk study key sources and information sought.

Key Source	Date of Consultation	Information Sought	Study Area
Natural Resources Wales (NRW) website https://naturalresources.wales/?lang=en	October 2022	Proximity to statutory designated sites.	Within 10km of the Site (see Figure 9.1).
'MAGIC' website https://magic.defra.gov.uk/magicmap.aspx	October 2022	Proximity to statutory designated sites.	Within 10km of the Site (see Figure 9.1).
South East Wales Biodiversity Records Centre (SEWBRC)	October 2022	Existing ecological records. Proximity to non-statutory designated sites.	Within 1km of the Site (see Figures 9.2b and 9.2c).

2.2.3 Protected terrestrial mammal survey and reptile 'presence/absence' surveys were carried out on land adjoining the 'MFD' area (the eastern land area of the Site as shown in **Figure 9.5a**) of the Site in 2015, by Avian Ecology Ltd. These surveys consisted of:

- Protected mammal survey of the Site (and adjoining habitats, where accessible) for evidence of protected mammals, including badger, otter and water vole on 22nd June 2015.
- Reptile 'presence/absence' surveys of habitats identified as potentially suitable for reptiles with 34 reptile mats deployed on 14th August 2015. Two areas for survey were within the Tyle'r Waum SINC in the east of the Site (at c. SS 83492 97836 and SS 83234 97784), with two areas along the southern Site boundary (at c. SS 82931 97582 and SS 82720 97499). Reptile surveys were subsequently checked on 11th and 25th August 2015, and 1st, 9th, 10th and 18th September 2015. During the protected terrestrial mammal survey any reptiles were also recorded.

2.3 Field Surveys

2.3.1 Information regarding the presence or likely presence of protected and notable species within proximity to the Proposed Development has been derived through field survey for the following species:

- Badger;
- Water vole;
- Otter; and
- Reptiles.

Protected Terrestrial Mammal Survey

2.3.2 The field survey has comprised a walkover survey of the MFD area (and adjoining habitat where accessible) in 2019 and the Site (and adjoining habitat where accessible) in 2021, with the survey area in 2021 shown as the area on the Phase 1 Habitat Survey Plan in **Figure 9.3**. During the surveys a search was undertaken to record the location and distribution of field signs identifying the presence and/ or

potential presence of protected terrestrial mammal species. The survey methodology followed industry standard guidance: Chanin (2003), Cresswell *et al.* (2012), Dean *et al.* (2016), Harris *et al.* (1989), NatureScot (2018) and NatureScot (2020a-c). The survey area in 2021 was the Site out to at least 200m from the Proposed Development, in accordance with NatureScot guidance (2020a-c)¹.

Table 2.2: Terrestrial mammal field survey methodology summary.

Species	Survey Methodology Summary
Badger	Walkover search of suitable habitat for signs of badgers, such as footprints, hair, snuffle holes, latrines and sett entrances.
Water vole	Walkover search of suitable habitats for potential burrows, runs, footprints, feeding stations and feeding remains, droppings and latrines.
Otter	Walkover search of suitable habitat for spraints, paw prints, paths, slides, food remains, holts and places used for breeding and/ or shelter.

2.3.3 The survey was undertaken in August 2019 and July 2021, on the following dates:

- 1st August 2019 (MFD area only); and
- 27th July 2021 (the Site).

2.3.4 In addition, an extended Phase 1 habitat survey was carried out along the Fforch-Dwm Road which connects the MFD area and 'MB area' (the western land area of the Site as shown in **Figure 9.5a**) on 4th August 2022, when signs of terrestrial mammals were searched for.

2.3.5 All surveys were undertaken in conditions conducive to the survey of terrestrial mammals, including normal flow conditions of on-site watercourses and not undertaken after periods of heavy rain.

2.3.6 Any requirement for further targeted species-specific surveys were determined during the August 2019, July 2021 and August 2022 surveys.

Reptile Survey

2.3.7 A habitat appraisal of the Site was undertaken during the extended Phase 1 habitat survey (on 1st August 2019), where habitats were assessed for suitability for supporting reptiles. Although the grazed semi-improved acid and neutral grassland over much of the Site was considered largely sub-optimal for reptiles, those areas of bog, marshy grassland and rough field margins were considered potentially suitable. Furthermore, the Tyle'r Waum Site of Interest for Nature Conservation (SINC) in the east of the Site has adder and common lizard as qualifying features, and therefore reptiles have potential to use the Site.

2.3.8 Reptile 'presence/absence' surveys were undertaken in accordance with the methodology detailed in 'Froglife' Advice Sheet 10 'Reptile Survey' (Froglife, 2016). The objective of the survey was to identify the range of reptile species present and their relative abundance.

2.3.9 The method involved searching for reptiles by laying 70 'refugia' (combination of roofing felt and corrugated sheets/tins) at targeted locations across the Site (see **Figure 9.5a**). The locations were selected on the basis of the presence of suitable habitat features, as recommended in the Froglife guidance (2016). The refugia were deployed on 4th August 2022, with at least a four-week period

¹ In the absence of Welsh-specific guidance.

before the reptile survey checks commenced on 1st September 2022, to ensure there was a “bedding in period” to allow time for reptiles to find, habituate and use them. The refugia were subject to nine checks in autumn (September 2022), in weather conditions conducive to optimal survey. See **Table 2.3** for survey details.

Table 2.3 Reptile survey details.

Visit Number	Date	Time (24h)	Temperature (°C)	Cloud Cover (%)	Precipitation
1	01/09/2022	13:30	19	100	None
2	06/09/2022	07:30	16	80	None
3	09/09/2022	07:30	13	100	Intermittent drizzle
4	12/09/2022	07:30	16	90	Short light shower, otherwise fine
5	15/09/2022	07:30	13	80	None
6	19/09/2022	07:15	10	100	None
7	23/09/2022	07:30	11	80	None
8	26/09/2022	07:30	11	70	None
9	28/09/2022	08:50	9	90	Short light shower, otherwise fine

Personnel

- 2.3.10 Terrestrial mammal surveys were respectively undertaken by Mr A. Hulme BSc (Hons.) in 2019 and Mr C. Davies MSc in 2021, and the extended Phase 1 habitat survey was undertaken by Mr K. Love BSc (Hons.) and Mr P. Baker in August 2022, and all surveyors are highly experienced field ecologists with considerable experience in the survey and identification of field signs of protected terrestrial mammal species in the UK.
- 2.3.11 Reptile surveys were undertaken by Mr S. Shutt BSc (Hons.) StMIEnvSc. who is a highly experienced field ecologist with considerable knowledge of reptile survey and identification. The refugia were deployed by Mr K. Love and Mr P. Baker who are both experienced in reptile surveys.

Limitations

- 2.3.12 Habitats outside the Site were surveyed from public rights of way (PRoWs). Access to habitats outside the Site for recording evidence of terrestrial mammals was relatively extensive in all areas within and surrounding the Site considered suitable for terrestrial mammals and the results obtained are considered robust in relation to the objectives of the survey (for further details see **Chapter 9: ‘Ecology’**).

3 RESULTS

3.1 Desk Study

Statutory Designated Sites for Nature Conservation

- 3.1.1 A review of NRW and ‘MAGIC’ websites identifies that the Site does not form part of any statutory designated site for nature conservation with ecological qualifying features.

- 3.1.2 Although there are no designated sites with qualifying protected species (terrestrial mammals or reptile interests) within 10km of the Site, the Bryn Tip Local Nature Reserve (LNR) is approximately 3.9km south of the Site boundary and lists slow worm and common lizard as species supported within the LNR.

Non-statutory Designated Sites for Nature Conservation

- 3.1.3 The Site has three local wildlife sites, termed Sites of Interest for Nature Conservation (SINCs) within 1km of its boundaries. One of the SINCs (Tyle'r Waum SINC) is within the eastern extreme of the Site, Cwm Blaenpelenna adjoins part of the northern Site boundary and Tonmawr Minewater Treatment & Surrounding Habitats SINC lies adjacent to the western Site boundary. Tyle'r Waum SINC has adder and common lizard as qualifying species, and Tonmawr Minewater Treatment & Surrounding Habitats SINC has grass snake, adder and common lizard as qualifying species. Cwm Blaenpelenna SINC has habitats (mosaic) and invertebrates as qualifying features. The full list of SINCs and qualifying features are provided in **Appendix 9.1**.

Existing Protected and Notable Species Records

- 3.1.4 A summary of the protected and notable species records from SEWBRC is provided in **Table 3.1**. Records are presented in **Figures 9.2b** and **9.2c**, with sensitive records presented in **Confidential Figure C9.1**.

Table 3.1: Desk study records returned by SEWBRC.

Taxon Group	Species	No. of Records (and dates)	Status	Notes
Mammal	Otter	2 (2014 & 2016)	WCA, HabReg, S7	Sensitive (see Confidential Figure C9.1).
Mammal	Badger	1 (2013)	PBA	Sensitive (see Confidential Figure C9.1).
Mammal	Brown hare	1 (2005)	SBL, S7	Sensitive (see Confidential Figure C9.1).
Amphibian	Common toad	3 (2009 & 2014)	S7	Nearest record c. 130m to west of the Site.
Reptile	Common lizard	5 (2009, 2012, 2013)	WCA ⁺ , S7	Nearest within the east of the Site, on a stone wall.
Reptile	Adder	26 (2015-16, 2019)	WCA ⁺ , S7	Nearest within the east of the Site, on a stone wall.
Reptile	Grass snake	16 (2009-10, 2014)	WCA ⁺ , S7	Nearest record c. 120m to west of the Site, with all records associated with Tonmawr Minewater Treatment & Surrounding Habitats SINC.
Bony fish	European eel	1 (2006)	S7	85m from the Site.
Bony fish	Brown trout	2 (2014)	S7	180m west from the Site.
Insect - beetle	<i>Pelenomus commari</i>	1 (2017)	SoCC	75m north of the Site.
Insect - butterfly	Small pearl-bordered fritillary	12 (1996-97, 2014, 2017 & 2020)	S7	Nearest record within the Site associated fields to

Taxon Group	Species	No. of Records (and dates)	Status	Notes
				east of the Nant Blaenpelenna.
Insect - butterfly	Small heath	8 (1996-97, 2001, 2006, 2017)	S7	Nearest records (two) within the Site.
Insect - butterfly	Dingy skipper	2017, 2022	S7	Nearest 65m north of the Site.
Insect - butterfly	Marshy fritillary	5 (2005)	WCA [†] , S7	Nearest 1.15km north-west of the Site.
Insect - butterfly	Grayling	3 (1997, 2006)	S7	Nearest record within the north of the Site.
Insect - butterfly	Wall	1 (1997)	S7	65m west of the Site.
Insect - dragonfly	Golden-ringed dragonfly	11 (1991-2009, 2015-15)	SoCC	Nearest record within the west of the Site.
Insect - moth	Knotgrass	1 (2017)	S7	On the southern Site boundary.
Insect - moth	Dusky brocade	1 (2016)	S7	Within the Site, close to farm.
Insect - moth	Garden tiger	3 (2016, 2019)	S7	All records from within the Site, mainly associated farm.
Insect - moth	Minor shoulder-knot	1 (2019)	S7	On the southern Site boundary.
Insect - moth	Mottled rustic	1 (2017)	S7	On the southern Site boundary.
Insect - moth	Broom moth	2 (2016)	S7	Records within the Site.
Insect - moth	Small phoenix	8 (2016-19)	S7	Most records within the Site.
Insect - moth	Autumnal rustic	2 (2019)	S7	Both records on the southern Site boundary.
Insect - moth	Rosy rustic	4 (2017-19)	S7	Nearest records within the Site.
Insect - moth	Shoulder-stiped wainscot	1 (2016)	S7	Record within the south of the Site.
Insect - moth	Brindled beauty	6 (2017-19)	S7	Records on the southern Site boundary.
Insect - moth	Scallop shell	1 (2019)	SoCC	Records within the Site.
Insect - moth	Dot moth	1 (2016)	S7	Record within the Site.
Insect - moth	Powdered quaker	1 (2019)	S7	Records on the southern Site boundary.
Insect - moth	White ermine	5 (2016, 2019)	S7	All records from within the Site, mainly associated with farm.
Insect - moth	Buff ermine	5 (2016, 2019)	S7	All records from within the Site, mainly associated with farm.

Taxon Group	Species	No. of Records (and dates)	Status	Notes
Insect - moth	Anomalous	2 (2019)	S7	Both records along the southern Site boundary.
Insect - moth	Hedge rustic	5 (2018-19)	S7	All records from within the Site.
Insect - moth	Blood-vein	2 (2017-18)	S7	Records on the southern Site boundary.
Insect - moth	Dark-barred twin-spot carpet	1 (2017)	S7	Record on the southern Site boundary.
Insect – true bog	<i>Anoscopus albifrons</i>	1 (2017)	SoCC	Record 90m north of the Site boundary.

WCA: Wildlife and Countryside Act (1981) – full protection, WCA⁺: Wildlife and Countryside Act (1981) – protected against intention killing or injuring; WCA[±]: Wildlife and Countryside Act (1981) – protected from intentional damage or destruction to a structure or place used for shelter or protection: HabReg: The Conservation (Natural Habitats, &c.) Regulations 2010, S7: Environment (Wales) Act 2016, PBA: Protection of Badgers Act (1992); SoCC: Species of Conservation Concern = Global Red List, British Red Data Book, Nationally Rare & Scarce (but not S7 species).

3.1.5 The 2015 protected terrestrial mammal surveys and reptile surveys of the MFD area of the Site revealed the following:

- No evidence of protected terrestrial mammals in the survey area.
- Common lizard:
 - One lizard at SS 82857 97539 (south in the Site at field boundary);
 - One lizard at SS 82182 98214 (north of the Site near Nant Blaenpelenna);
 - One lizard at SS 83483 97877 (within Tyle'r Waum SINC east in the Site);
 - One lizard at SS 82980 97779 (within Tyle'r Waum SINC); and
 - One lizard at SS 83065 97906 (within Tyle'r Waum SINC associated with wall).
- Adder:
 - Two adders at SS 83202 97796 (within Tyle'r Waum SINC associated with wall); and
 - Two adders at SS 83158 97831 (within Tyle'r Waum SINC associated with wall).

3.2 Field Surveys

Protected Terrestrial Mammal Survey

3.2.1 No evidence of any protected terrestrial mammal species was recorded during the surveys.

3.2.2 Furthermore, the watercourses surveyed were appraised as sub-optimal for species, such as water vole and otter, given they are fast-flowing, rocky and typically heavily vegetated, with lack of suitable banks for the establishment of water vole burrows or habitat which could support an otter holt.

- 3.2.3 The habitats within the survey area offered some foraging potential for badger, but the establishment of a badger sett is considered unlikely within the Site itself, given the habitats present (mainly open grassland fields, with few hedgerows and wooded areas).

Reptile Survey

- 3.2.4 The results of the reptile survey carried out are presented in **Table 3.2** and are illustrated in **Figures 9.5b** and **9.5c**.

Table 3.2: Reptile survey results.

Visit Number	Species	Refugia Number	Comment
1	Common lizard	7	1 x adult
2	-	-	-
3	-	-	-
4	Common lizard	46 52 55 57	1 x juvenile 1 x adult female 1 x sub-adult 1 x adult female
5	Slow worm Common lizard	27 47 52 55 56	1 x adult female 1 x sub-adult 1 x adult male 1 x sub-adult 1 x adult female
6	-	-	-
7	Common lizard	25 55 57	1 x sub-adult 1 x adult male 1 x adult female
8	-	-	-
9	-	-	-

‘-’ means no reptiles recorded during that survey visit.

4 REFERENCES

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NatureScot (2018) *Best Practice Badger Survey Guidance Note*. SNH, Inverness.

NatureScot (2020a) Standing Advice for Planning Consultations – Protected Species: Badger. NatureScot, Inverness.

NatureScot (2020b) Standing Advice for Planning Consultations – Protected Species: Otter. NatureScot, Inverness.

NatureScot (2020c) Standing Advice for Planning Consultations – Protected Species: Water Vole. NatureScot, Inverness.

ANNEX 1: SCIENTIFIC SPECIES NAMES

Table A1.1 provides common and scientific names of species included in this Appendix.

Common Name	Scientific Name
Badger	<i>Meles meles</i>
Otter	<i>Lutra lutra</i>
Water vole	<i>Arvicola amphibius</i>
Brown hare	<i>Lepus europaeus</i>
Adder	<i>Vipera berus</i>
Common lizard	<i>Zootoca vivipara</i>
Slow worm	<i>Anguis fragilis</i>
Grass snake	<i>Natrix natrix</i>
Common toad	<i>Bufo bufo</i>
European eel	<i>Anguilla anguilla</i>
Brown trout	<i>Salmo trutta</i>
-	<i>Pelenomus commari</i>
Small pearl-bordered fritillary	<i>Boloria selene</i>
Small heath	<i>Coenonympha pamphilus</i>
Dingy skipper	<i>Erynnis tages</i>
Marshy fritillary	<i>Euphydryas aurinia</i>
Grayling	<i>Hipparchia semele</i>
Wall	<i>Lasiommata megera</i>
Golden-ringed dragonfly	<i>Cordulegaster boltonii</i>
Knotgrass	<i>Acronicta rumicis</i>
Dusky brocade	<i>Apamea remissa</i>
Garden tiger	<i>Arctia caja</i>
Minor shoulder-knot	<i>Brachylomia viminalis</i>
Mottled rustic	<i>Caradrina morpheus</i>
Broom moth	<i>Ceramica pisi</i>
Small phoenix	<i>Ecliptopera silaceata</i>
Autumnal rustic	<i>Eugnorisma glareosa</i>
Rosy rustic	<i>Hydraecia micacea</i>
Shoulder-stiped wainscot	<i>Leucania comma</i>
Brindled beauty	<i>Lycia hirtaria</i>
Scallop shell	<i>Rheumaptera undulata</i>
Dot moth	<i>Melanchra persicariae</i>
Powdered quaker	<i>Orthosia gracilis</i>
White ermine	<i>Spilosoma lubricipeda</i>
Buff ermine	<i>Spilosoma luteum</i>
Anomalous	<i>Stilbia anomala</i>

Common Name	Scientific Name
Hedge rustic	<i>Tholera cespitis</i>
Blood-vein	<i>Timandra comae</i>
Dark-barred twin-spot carpet	<i>Xanthorhoe ferrugata</i>
-	<i>Anoscopus albifrons</i>