



Galileo 03 Ltd.

Mynydd Ty-talwyn Energy Park - Environmental Statement Volume II

Main Written Statement – Chapter 10: Terrestrial Ecology

Project Reference: 663870

This chapter is summarised within the Non-Technical Summary in Volume I of this Environmental Statement. A Welsh translation of the Non-Technical Summary is also available as part of the application.

Crynoir y bennod hon yng Nghrynodeb Annhechnegol y Datganiad Amgylcheddol hwn. Mae cyfieithiad Cymraeg o'r Crynodeb Annhechnegol hefyd ar gael fel rhan o'r cais.

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RSK

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10 TERRESTRIAL ECOLOGY

10.1 Introduction

- 10.1.1 This chapter presents an assessment of likely significant effects arising from the construction, operation (including maintenance) and decommissioning of the Proposed Development upon terrestrial ecology. The full description of the Proposed Development is provided within **ES Volume II, Chapter 2: Proposed Development Description**.
- 10.1.2 The chapter describes the technical consultation that has been undertaken during the Environmental Impact Assessment (EIA), the scope of the assessment and assessment methodology, and a summary of the baseline information that has informed the assessment.
- 10.1.3 In line with **ES Volume II, Chapter 4: Approach to EIA**, the assessment reports on the likely significant environmental effects and the further mitigation measures required to prevent, reduce or offset any significant adverse effects, or provide beneficial effects. The conclusions identified are provided both in terms of the residual effects and whether these are considered to be significant. The assessment of effects takes into consideration both primary and tertiary mitigation (see **ES Volume II, Chapter 4: Approach to EIA** for further details).
- 10.1.4 This chapter is supported by the following appendices presented in **ES Volume III**:
- **Appendix 4.3: Air Quality Assessment;**
 - **Appendix 4.5: Aviation Lighting Scheme;**
 - **Appendix 10.1: Ecological Baseline Report** (RSK Biocensus, 2025);
 - **Appendix 10.2: Grassland Fungi Survey Report** (Sturgess Ecology, 2024);
 - **Appendix 10.3: Habitats Regulations Assessment Screening Report** (RSK Biocensus, 2025);
 - **Appendix 10.4: Net Benefit for Biodiversity Report** (RSK Biocensus, 2025);
 - **Appendix 10.5: Additional Bat Data Weather and High Risk Collision Proportionality; and**
 - **Appendix 10.6: Invasive Non-Native Species Management Plan.**
- 10.1.5 This chapter is supported by the following figures presented in **ES Volume IV**:
- **Figure 10.1: Important Ecological Features – Designated Sites;**
 - **Figure 10.2: Important Ecological Features – Habitats;**
 - **Figure 10.3: Important Ecological Features – Protected Species (Excluding Bats);**
 - **Figure 10.4: Important Ecological Features - Protected Species (Bats);**

- **Figure 10.5: Important Ecological Features – Invasive Non-Native Species;**
- **Figure 10.6: Impacts and Mitigation;**
- **Figure 10.7: Impacts and Mitigation – Horseshoe Bats; and**
- **Figure 10.8: Impacts and Mitigation – Dormouse.**

10.1.6 This chapter should be read in conjunction with the following assessment chapters in **ES Volume II**:

- **Chapter 6: Water;**
- **Chapter 8: Landscape and Visual;**
- **Chapter 9: Noise and Vibration; and**
- **Chapter 10: Ornithology.**

10.2 Consultation and Scope

Scoping Direction

- 10.2.1 The scope of this assessment has been established through an ongoing scoping process. This has involved the production of an EIA Scoping Report (provided in **ES Volume III, Appendix 1.1: EIA Scoping Report**), which was submitted to Planning and Environment Decision Wales (PEDW) on 27 November 2023. Further information on the scoping process can be found in **ES Volume II, Chapter 4: Approach to EIA**.
- 10.2.2 The Scoping Direction, a copy of which is included in **ES Volume III, Appendix 1.2: Scoping Direction**, was received on 11 April 2024. **Table 10.1** summarises the key Scoping Direction comments related to this assessment and sets out how these have been addressed by the Applicant.

Table 10.1 Summary of Scoping Direction Comments Relevant to this Biodiversity Assessment

ID no.	Issue	Comment raised	Applicant response
ID.22	Survey methodology	Surveys should accord with Nature Conservancy Council Phase 1 survey guidelines and should be undertaken in the summer months.	UKHab surveys were completed in May 2023 and between April and June 2024 and later transposed to Phase 1 habitat survey (JNCC, 2010).
		The Phase 1 survey results should be presented alongside the current management of the Site, including changes which may impact the use of the Site by protected species.	The Phase 1 survey results are presented in Volume III, Appendix 10.1: Ecological Baseline Report , as is a description of the current management of the Site.
		Bridgend County Borough Council (BCBC) recommend that a fungal ecology preliminary assessment is undertaken to determine whether a full survey is required. BCBC refer to CIEEM: Grasslands and CHEGD Fungi CIEEM.	The fungi survey was completed between September and November 2024, and the results are presented in ES Volume III, Appendix 10.2: Grassland Fungi Survey Report . The reference made by BCBC highlights the need to assess waxcaps. This has been done, as reported in this chapter and the Grassland Fungi Survey Report referred above.
		PEDW advises that the surveys and their scope should be agreed with relevant consultees prior to being undertaken.	Comments within the Scoping Direction were taken into consideration prior to survey completion.
ID.23	Study area	BCBC agree the study area in principle. However, they advise that a flexible approach will be required, the Zone of Influence may need to be extended beyond the identified 2 km should the surveys support this approach.	The study area was reviewed in relation to the initial survey data. This review determined that the study area was considered to be suitable for the majority of the impact assessment.

ID no.	Issue	Comment raised	Applicant response
		PEDW advise that the study area should be considered following the initial surveys, the approach should be fully set out in the ES.	An additional survey area was added for bat activity surveys in July 2024 to encompass the proposed solar areas of the Proposed Development.
ID.24	Data sources	PEDW advises considering South East Wales Biodiversity Centre (SEWBRc) and Supplementary Planning Guidance (SPG) 19 – Biodiversity and Development when preparing the ES.	SEWBRc was contacted and desk study results can be found in ES Volume III, Appendix 10.1 Ecological Baseline Report . SPG 19 has been considered in the preparation of this chapter.
ID.25	Marsh fritillary butterfly	Natural Resources Wales (NRW) state that a full grassland survey is required to assess the value of the marshy grassland habitat across the Site. This will determine the likely impact on Marsh Fritillary which are a designated feature of the Cwm Risca Site of Special Scientific Interest (SSSI) and Cefn Cribwr Special Area of Conservation (SAC). They advise a Phase 2 survey of the National Vegetation Classification (NVC) vegetation communities is required to understand the impact of the development. PEDW therefore advises that Marsh Fritillary cannot be scoped out at this stage. The above surveys are required in order to understand the extent to which the species relies upon habitats on-site, and the likely impacts.	NVC surveys (Phase 2) were completed in August 2023 and July 2024, and survey results can be found in ES Volume III, Appendix 10.1 Ecological Baseline Report . No recent records of marsh fritillary were identified within the desk study. Only two individuals of Devil's bit scabious, the marsh fritillary's main foodplant, were identified within the Site and with limited connectivity to other suitable areas. It is considered unlikely that the Site would support a colony of marsh fritillary; therefore, marsh fritillary has been scoped out of this assessment.

ID no.	Issue	Comment raised	Applicant response
ID.26	Bats	NRW welcome the proposed bat surveys to be undertaken to inform the assessment. NRW advise that the application should be supported by up-to-date bat surveys of the site in accordance with: • Bats and Onshore wind turbines – survey, assessment and mitigation by Nature Scot dated August 2021. • Bat Surveys for Professional Ecologist: Good Practice Guidelines (4th Edition) by Bat Conservation Trust dated 2023 • The impacts of the proposals on bats should be assessed using the Ecobat tool (currently hosted by the Mammal Society).	Bat surveys were undertaken between 2023 and 2025 A site risk assessment was completed following NatureScot guidance (NatureScot, 2021). A preliminary bat roost assessment was completed in January 2022 following Bat surveys for professional ecologists (Collins, 2016). Further surveys were completed following Bat surveys for professional ecologists (Collins, 2023). Ecobat was utilised for the comparison of bat activity data with sites in a similar geographic location. Survey results can be found in ES Volume III, Appendix 10.1 Ecological Baseline Report.
		PEDW advises that roosting bats cannot be scoped out at this stage	An assessment of the effects of the Proposed Development on roosting bats has been considered within this chapter. Aerial inspections of trees were completed in March 2025 following appropriate guidelines (Collins, 2016). Two trees were identified as offering roosting potential that requires further surveys to inform a licence application. One tree is located in the north adjacent to an existing access road. The other tree is located within the footprint of the southern access track.

ID no.	Issue	Comment raised	Applicant response
ID.27	Great crested newt (GCN)	NRW advise that all ponds and wet ditches within 250 m of the Proposed Development works, including the grid connection route are assessed for the presence of GCN. This should include any waterbodies on private land. NRW advise that presence/absence surveys should be carried out regardless of the results of HSI surveys. NRW also advise that the assessment of impact should also consider the impact on associated terrestrial habitats. The assessment to determine the presence of GCN should include Habitat Suitability Index (HSI) assessment, eDNA or traditional presence/absence surveys, followed up by a suite of traditional surveys to determine population size class (as appropriate).	GCN surveys comprising HSI, eDNA and, where required, population size class assessment were undertaken between April and June 2024 for waterbodies within 250 m of the Site (including those on private land); survey results can be found in ES Volume III, Appendix 10.1 Ecological Baseline Report. No ponds within the Site had GCN present, confirmed through GCN eDNA and population estimate surveys. One pond was positive for GCN eDNA; this pond is located offsite. In addition to this, no works are due to take place within 350 m of the pond with GCN present. GCN have been assessed within this chapter which concludes no impacts on this species. Where the proposed grid connection route falls outside of the Site boundary, ecological surveys have not been undertaken. These surveys would be undertaken to support the forthcoming separate planning application for the grid connection.
ID.28	Otter	NRW advise that the otter surveys should also consider potential overland routes used by otters for dispersal between river catchments. They further advise that surveys are undertaken across the year to establish any seasonal pattern of use,	Otter surveys were completed in May-June 2023 and July 2024, and survey results can be found in ES Volume III, Appendix 10.1 Ecological Baseline Report.

ID no.	Issue	Comment raised	Applicant response
		a single survey is not sufficient to demonstrate absence of otter. Security fencing must not interfere with the movement of otter through the landscape.	Overland dispersal routes were considered at the design stage and embedded mitigation designed. This is discussed within this chapter.
ID.29	Water vole	NRW note that a single survey for water voles is insufficient to conclude absence of the species. Surveys for water voles should be undertaken in the period mid-April to end of June, and July to September with at least 2 months apart between visits in accordance with published best practice set out in The Water Vole Mitigation Handbook (Mammal Society, 2016). Consideration should be given to population distribution arising from post-breeding dispersal, and to water voles exhibiting fossorial habits which may live in terrestrial habitats some distance away from watercourses. PEDW advises that water voles cannot be scoped out at this stage. The above surveys should be undertaken to determine the presence of, and, if necessary, likely impacts on water voles.	Two water vole surveys were completed in May-June 2023 and July 2024, and survey results can be found in ES Volume III, Appendix 10.1 Ecological Baseline Report. Surveys have been completed following best practice set out in The Water Vole Mitigation Handbook (Mammal Society, 2016). Six records of water vole are present 1.1 km from the Site. There were numerous waterbodies within the Site, the majority of which were considered to be unsuitable for water vole due to either low water levels, heavy shading or lack of marginal or aquatic vegetation. No field signs of water vole were recorded within 2023 or 2024. Although water vole surveys were targeted at the watercourses, no evidence of fossorial water voles was identified from potentially suitable habitats during other surveys of the Site. In addition to this, no watercourses with water vole suitability will be impacted as part of the works.

ID no.	Issue	Comment raised	Applicant response
			Surveys undertaken confirm water vole are not present within the Site; therefore, water vole has been scoped out of this assessment.
ID.30	Hazel dormouse	NRW note that there is habitat suitable for dormice on and near the Site, but it is unclear whether the Proposed Development is likely to impact this habitat. If this is the case, NRW advise that the relevant habitats are subject to dormouse surveys in accordance with the guidance set out in the Dormouse Conservation Handbook 2nd Ed (English Nature, 2004). PEDW advises that clarification is required on whether the Proposed Development is likely to impact dormouse habitat. Given the SR confirms that the design has not been finalised, the impact on dormice cannot be scoped out at this stage.	Dormouse surveys have not been completed within the Site (as discussed further in paragraph 10.10.1). The Site has suitable habitat for dormice present and the desk study identified a record of dormice 880 m south of the Site. Therefore, this assessment has been undertaken based on an assumption that dormice are present within the Site. Impacts and residual effects on suitable dormouse habitat are included within this chapter.
ID.32	Method for Impact Assessment	The applicant's attention is drawn to NRW's detailed comments under the sub-heading 'Impact Assessment'. These aspects should be included in the methodology for assessment and covered in the ES.	This has been included within this chapter.
ID.33	Further advice	The applicant's attention is drawn to NRW's comments, which provide detailed advice on: • European Protection Species (EPS) licences;	NRW's comments relating to EPS licences, local biodiversity interests, green infrastructure and biodiversity enhancements are discussed within this chapter.

ID no.	Issue	Comment raised	Applicant response
		- Local biodiversity interests and green infrastructure; and - Biodiversity enhancements. BCBC also highlight that no consultation has been undertaken with the LPAs prior to scoping. The applicant should liaise with relevant stakeholders as early as possible in the process.	Relevant stakeholders were consulted and listed in Table 10.2 .
ID.34	Mitigation	PEDW advise that the completed surveys should be used to understand any impact on species and habitats, this should then be used to inform mitigation measures. BCBC query, at this early stage, where the proposed embedded environmental mitigation measures set out in Table 4.1 have been derived from, in particular the accepted distances of the proposed infrastructure from key sensitive environmental receptors.	Survey results found in ES Volume III, Appendix 10.1 Ecological Baseline Report have been used to inform an assessment of impacts on habitats and species as a result of the Proposed Development. These results have also been used to inform mitigation measures. Ecology survey findings have influenced design by implementing buffers around designated sites, sensitive lighting design and avoidance of sensitive habitats/fungi areas. Full details of all embedded mitigation measures can be found in Table 10.13 Embedded Mitigation and additional mitigation can be found in Table 10.16 Additional Mitigation.

Additional Consultation

- 10.2.3 **Table 10.2** provides a summary of the additional consultation activities undertaken in support of the preparation of this assessment outside of the EIA Scoping process.

Table 10.2 Summary of Additional Consultation Undertaken

Consultee	Date of engagement	Summary of matters discussed	Applicant response
BCBC – Ecologists	12/02/2025	Virtual meeting: Overview of ecology work undertaken and results. Discussion around mitigation proposed.	Summary of ecology work sent via email following meeting.

Statutory Pre-application Consultation (PAC)

- 10.2.4 **Table 10.3** provides a summary of the responses received, in relation to Terrestrial Ecology, following the statutory PAC process, and the necessary action taken to update the assessment, where relevant. Where appropriate the PAC responses have been summarised. The full consultee comments are set out in the standalone **Pre-application Consultation Report**, which is submitted as part of the DNS Application.

Table 10.3 PAC Comments and Responses

Consultee	Summary of Consultee Comments	Applicant response
Bats		
NRW	A map which shows the static detector locations in 2023 and 2024 surveys and their position relative to the proposed locations of the development infrastructure. The information provided should be consistent between ES Chapter 10 and the supporting appendices and figures.	ES Volume III, Appendix 10.1: Ecological Baseline Report, Figure 5: Bat Static Locations and Ground Level Tree Assessment Results has been amended to show this information.
	The weather conditions at the time of the static surveys, along with confirmation of the dates for which the weather conditions were deemed unsuitable for bats throughout the night.	Weather data table provided separately within ES Volume III, Appendix 10.5: Additional Bat Data Weather and High Risk Collision Proportionality .
	A map clarifying the transect route in June and October 2024.	ES Volume III, Appendix 10.1: Ecological Baseline Report, Figure 5: Bat Static Locations and GLTA Results has been amended to show this information.
	Confirmation of what the bat buffer is for each turbine (with reference to the calculation in Figure 1 of the above guidance [Bats and onshore wind turbines – survey, assessment and mitigation, NatureScot]). Illustrate both the bat buffer and the full extent of the micro-siting tolerance for each turbine on a map of new and retained habitats.	A 50 m buffer from blade tip to vegetation (including both existing and proposed vegetation) has been incorporated, as detailed in Table 10.13. ES Volume IV, Figure 10.4: Important Ecological Features Protected Species - Bats has been updated to include the relevant bat buffer. A 50 m micro-siting allowance is being applied for; however, this would be restricted in directions which

Consultee	Summary of Consultee Comments	Applicant response
	Clarification is sought that appropriate bat buffers relevant to the turbine dimensions and height of nearest bat habitat feature will be employed and will not be compromised by new and retained habitats. Having established the bat buffers at the micro-siting stage, we advise that those buffers are maintained throughout the operational phase; we consider that this aspect could be dealt with via an appropriately worded Habitat Management Plan planning condition attached to any consent issued for the scheme.	include constraints. It is proposed that a condition to submit and agree a scheme of micro-siting is attached to any permission, which will ensure sensitive areas are excluded; this approach has been used on other wind farm DNS permissions. We propose that the bat buffers are maintained throughout the life of the Proposed Development. Habitat management to ensure this would be secured through the Habitat Management Plan.
	We advise that blade feathering is applied to all wind turbine schemes as it can help minimise the potential for killing and injury of bats at lower wind speeds without compromising energy generation. We advise feathering is applied to all turbine blades between April – October to reduce rotation speeds to below 2rpm while idling.	This requirement has been incorporated into the design of the Proposed Development as embedded mitigation. Text has been added to Table 10.13 to capture this requirement.
	Information on the proportion of bat activity above the cut-in speed of the turbines in each of the seasons by bat species at medium and high risk of collision with wind turbines.	Proportion of bat activity data has now been provided separately within ES Volume III, Appendix 10.5: Additional Bat Data - Weather and High Risk Collision Proportionality.

Consultee	Summary of Consultee Comments	Applicant response
	Map that shows the bat habitat features that horseshoe bats are likely to use which will be lost, retained and created as part of the development.	A new figure has been created, ES Volume IV, Figure 10.7: Impacts and Mitigation Horseshoe Bats , which illustrates this.
	We note and welcome the reference in ES para 10.8.62 and Table 10.14 to bat monitoring, though we think what is meant here is a 'Bat Monitoring and Mitigation Strategy' (BMMS).	Text has been amended at paragraph 10.8.62 and Table 10.16 Additional Mitigation .
	We advise that the submitted ES outlines the mitigation that will be required from the outset of the operation of the development (based on the assessment of impacts) and the monitoring commitments, for the Inspector's consideration as part of the determination of the application.	An outline Habitat Management Plan with monitoring commitments incorporating the BMMS is included within ES Volume III, Appendix 10.4: Net Benefit for Biodiversity Report . Example monitoring requirements are also set out in paragraph 10.8.59 of this chapter.
	We welcome that 16 trees with potential to support roosting bats have been subject to ground level assessment of roost features and climbed endoscope inspections. Of these we note that T3 and T72 have potential to support a maternity roost (PRF-M) and T72, T88, T97 and T98 have potential to support non-breeding bat roosts (PRF-I). As above, we advise that the ES sets out the proposed mitigation for the loss of these roosts.	Text has been added to Table 10.13 to capture the proposed embedded mitigation.
	The weather conditions at the time of the static surveys, along with confirmation of the dates for which the weather conditions were deemed unsuitable for bats throughout the night.	Weather data table is now provided separately at ES Volume III, Appendix 10.5: Additional Bat Data - Weather and High Risk Collision Proportionality

Consultee	Summary of Consultee Comments	Applicant response
Dormice		
NRW	A plan showing dormouse habitat to be lost, retained and created which should identify the extent and location on appropriate scale.	A new figure has been created at ES Volume IV, Figure 10.8: Impacts and Mitigation Dormouse
	We welcome that a minimum 15 m buffer will apply between built development and woodland, and a 10 m buffer will apply between built development and existing hedgerows; we advise that these buffers are shown on the scheme layout drawings.	These have been added onto ES Volume IV, Figure 10.6: Impacts and Mitigation as a note. They have not been displayed visually as they would not be clearly legible due to the scale of the figure, but text in a pop out box indicates the buffers.
Great Crested Newts		
NRW	We advise that a map is provided to confirm the location of all the waterbodies identified on-site and on land within 250 m of the Site boundary, and identify those that were subject to GCN survey and those that were not.	ES Volume III, Appendix 10.1: Ecological Baseline Report, Figure 4: GCN eDNA Survey Results Sheet 1 of 2 and Figure 4: GCN eDNA Survey Results Sheet 2 of 2 has been amended to show this information.
	We advise clarification is provided regarding the pond numbers referenced in paras 2.14.7 and 2.14.8 of the ecology baseline report, and justification for assumptions of GCN presence that have been assigned to other ponds inaccessible for survey as listed in Table 24 of the same report.	Amended text in ES Volume III, Appendix 10.1: Ecological Baseline Report , paragraphs 2.14.7 and 2.14.8, to clarify that it is Pond 11 and Pond 59 being referred to, respectively and relevant justification is provided within the paragraphs.
Otter and Watervole		
NRW	We seek clarification of the areas that were subject to otter (and water vole) surveys in 2023 and 2024, and those areas where survey access was not possible.	All of the areas of watercourse shown on the otter and water vole plan ES Volume III, Appendix 10.1: Ecological Baseline Report, Figure 6 Otter and Watervole Waterbodies were surveyed – physical access was restricted in some areas but survey by

Consultee	Summary of Consultee Comments	Applicant response
		binocular was possible and so there are no areas where survey was not possible.
	We welcome that a 10 m buffer will be applied between built development and watercourses; we advise that these are shown on scheme layout drawings.	These have been added onto ES Volume IV, Figure 10.6: Impacts and Mitigation as a note. They have not been displayed visually as they would not be clearly legible due to the scale of the figure.
NRW	We also welcome that mammal gates will be installed as part of security fencing to allow permeability of the developed site by mammals including otters. We advise that a planning condition is attached to any permission granted for the scheme requiring the submission of the fencing specification, including design and proposed location of mammal gates, for approval prior to works commencing on the Site.	As set out in Table 10.13 , mammal fencing has been incorporated as an embedded part of the design. The Applicant welcomes a planning condition attached to any permission which requires the specification of the fencing to be submitted and agreed prior to works commencing.
NRW	We also note the proposal to use an open span bridges at a watercourse crossings in the north-east of the site. We advise that any consent issued for the scheme includes a suitably worded planning condition to require the detail of the specification of the structure to be agreed prior to development works commencing.	The Applicant welcomes a planning condition attached to any permission which requires the specification of watercourse crossings to be submitted and agreed prior to works commencing.
Site of Special Scientific Interest		
NRW	We have concerns that the Cwm Risca SSSI could be indirectly impacted by the proposed access road to the east and north of the site altering the hydrological connections to the SSSI and thus altering the current hydrology, which could adversely impact the protected features. In addition, any airborne or pollution runoff during the construction phase of the roads, from fuel and	ES Volume III, Appendix 6.2: Flood Consequence Assessment and Surface Water Drainage Statement details a gravel back-filled drainage trench on the downslope edge of the access track to manage surface water runoff up to and including the 1 in 100 year plus climate change event as a result of the hardstanding

Consultee	Summary of Consultee Comments	Applicant response
	oils in the use of on-site machinery and subsequent use of the access road could also potentially adversely impact the SSSI. In addition, careful consideration within any detailed CEMP and risk assessment and working method statement (RAMS) which will be required to prevent either an interruption or alteration of the hydrological links and minimise any pollution resulting from the creation and use of this access road. This will also be the case for the development of the solar panel array situated directly east of the SSSI where there is a watercourse that enters the SSSI on its eastern boundary. In addition, the position of the solar panel arrays ('J-N') [now solar parcels H to O] in fields directly to the north of the SSSI may have an impact on how rainwater is directed and focussed uphill of the SSSI, which may have some impacts on the hydrology supporting the SSSI. The presence of solar panel arrays can disrupt the rainfall patterns across the field, capturing more on the panels that drip into distinct zones and because of their alignment, could affect infiltration and how rainfall passively drains from the fields. This has a potential to impact the hydrology supporting Cwm Risca SSSI and we request further assurance that these aspects are assessed and adjusted for in the design of this development where these concerns are substantiated. The proposals for the use of swales within the solar panel array fields are welcomed but need to be carefully designed and monitored to ensure their effectiveness in preventing damage to the SSSI and its protected features.	material contributed by the track. The trench captures the runoff close to source and permits natural infiltration and evaporation, whilst the gravel will help capture any potential pollutants resulting from the use of the access track. The trenches will be suitably designed at the detailed design stage to be sized to accommodate the flows from the design event, with a management plan to be provided at the detailed design stage to ensure that the efficiency of the gravel is maintained and any pollutants are removed. The access track would not 'cut off' the hydrological connection from the SSSI catchments upstream of the access road, as overland flows are able to pass freely southward across the road. Any flows in excess of the design event will spill over the trench and runoff towards the SSSI, as per the existing scenario. The specifications of the solar array supports are to be designed to be widely spaced and are driven vertically into the ground with no additional foundations. The arrays are in rows with spaces of several metres in between the leading edge of one row and the trailing edge of the row behind, allowing a 'rainwater gap'. As such, the orientation of the panels will not have a significant impact of the rainfall runoff regime, infiltration and/ or passive draining of the Site as rainwater will be able to move freely beneath the panels, as per the existing scenario. In line with the research paper by Cook and McCuen (2013)

Consultee	Summary of Consultee Comments	Applicant response
		titled <i>Hydrologic Response of Solar Farms</i>, the research concluded that there was a negligible increase in the volume of runoff from the panels in comparison to the agricultural baseline. Following the Proposed Development, management of the grazing meadow grassland will be implemented with the full details of the improvements included in ES Volume III, Appendix 10.4: Net Benefit for Biodiversity Report. The grassland will mean erosion from runoff beneath the panels is unlikely to occur, and any potential channelization of flows is slowed. At detailed design, a suitable management regime will be designed to ensure the efficiency of the grassland in helping prevent channelisation. The swales are placed on the downslope perimeter of the solar panel arrays to capture any overland exceedance flows which would not naturally infiltrate to ground. The swales do not have a formal outfall and instead capture the exceedance runoff, allowing any flows in excess of the swale volumes to overspill at a slower rate to ensure runoff rate is not exacerbated as a result of the development. This should therefore not impact the SSSI, as the regime would be as existing and any channelization of flows beneath the panels would be suitably managed by the land use.

Consultee	Summary of Consultee Comments	Applicant response
	There appears to be a proposed buffer zone approximately 50 m wide, between the solar panel array (labelled 'O' on the designs) and the eastern boundary of the SSSI. It would be good to see a wider buffer zone allocated given the scale of this development and to award the protected site greater ecosystem protection to increase its resilience to future changes, such as climate change. It can be argued that the solar panel array to the east of the SSSI may not be deemed to pose a significant, direct impacts on the protected SSSI features. We advise further consideration is given to allocate a wider buffer to the protected sites and to sympathetically manage that buffer to afford a level of habitat protection that allows for greater, future habitat resilience and allow space for wildlife utilizing the SSSI to have an enhanced habitat resource to boost and assist the overall effectiveness of the ecology of this small, protected site. We have been developing our approach to ecosystem resilience and affording critical areas of land and habitats around protected sites as part of highlighting and planning resilient ecological networks (REN). This approach, as shown within NRW mapping, illustrates a buffer of at least 120m would be more appropriate to support this resilience approach to the protected habitat features. Thus, this buffer allocation should be looked at again by the developer to assess if this impact on the 'resilience buffer,' as attributed to Cwm Risca SSSI within NRW's REN can be amended to support the future resilience of this protected site. As part of the biodiversity gains within these proposals, the buffer could include implementation of appropriate restoration and	The solar panels to the east of the SSSI have been removed so the distance between the SSSI and proposed built development is now much larger at a minimum separation distance of 110 m. The buffer between the SSSI and the development will be continued to be managed as they currently are, which will provide habitat protection.

Consultee	Summary of Consultee Comments	Applicant response
	management techniques to support and maximise the ecological functioning of the SSSI within the buffer land. This could be achieved through appropriate modification towards sympathetic drainage, extensive grazing with appropriate livestock and planting of suitable species, where beneficial and supportive the ecological function of the protected habitats within the SSSI.	
Net Benefit for Biodiversity		
NRW	We have concerns with the management prescriptions within the 'Appendix 10.4: Net Benefit Report, Feature 3: Wet Grassland Management'. We do not agree with the statement in section 5.3.12, 'Management of wet grassland will follow similar management styles to the dry meadow creation with short cutting throughout the winter, growth in spring – summer, hay cut in late summer and autumn to spring mowing/grazing'. The restoration of these fields should be undertaken via low intensity cattle grazing regime in general, with some, targeted mowing/topping or potentially use of 'cut and collect' machinery in parts where purple moor grass (<i>Molinia caerulea</i>) is dominating or where species such as soft rush (<i>Juncus effusus</i>) or similar needs to be managed. Only parts of each field should be cut each year to reduce impacts on existing invertebrate and other species, in any, one-year cycle. Sensitive, gradual changes are best for nature conservation but where grass tussocks are dense, more intensive cattle grazing may be an option to consider as a short-term tool to help break up the sward.	Text has been amended in Annex 1 of ES Volume III, Appendix 10.4: Net Benefit for Biodiversity Report in relation to Feature 3: Wet Grassland Management (Marsh Fritillary and Bird Mitigation Areas). They have been amended to follow the prescriptions suggested by NRW.

Consultee	Summary of Consultee Comments	Applicant response
	Section 5.3.14 suggests the use of a seed mix if initial restoration is unsuccessful. The prescription to re-seed the more modified fields through use of seed mixes would be inappropriate here. The use of the suggested EM4 seed mix is not welcomed and many of the species in the list would not be suitable for inclusion within a marshy grassland in South Wales. The development should rely on appropriate, sympathetic management techniques to allow the regeneration of species within the existing 'seed bank' to germinate and to supplement this with the planting of local provenance species such as devil's bit scabious to directly assist marsh fritillary butterfly as part of any initial restoration work, followed by other species such as meadow thistle, greater bird's foot trefoil, marsh bedstraw and ragged robin amongst others. No application of fertiliser, manure or lime should be undertaken on these fields. We recommend the developer refers to INNC publication INCC-Habitat-Management.-The-Marsh-Fritillary-Butterfly-Eng.pdf regarding appropriate restoration and management techniques. Following submission of additional information as part of the full planning application, we would expect a suitably worded condition to be included to ensure the future management of any mitigation proposed.	

Consultee	Summary of Consultee Comments	Applicant response
Fungi		
NRW	We note the submission within Appendix 10.2: Grassland Fungi Survey Report however, the survey effort is limited in some areas. The grassland fungi survey only considers the land that is not being covered with infrastructure and there is no information on the grassland fungi of the land that will be lost/ subject to infrastructure. Although we note that the proposal will unlikely affect SSSI areas, the habitat on the Site may be of local significance. We therefore recommend further consultation with the Local Authorities in house ecologist on future mitigation.	The fungi survey was designed taking into account the whole Site boundary. The areas surveyed were identified by the surveyor as those most likely to support the targeted fungi types and that information was fed into the Proposed Development design to ensure that infrastructure was placed in areas least likely to support any of the ecological features. The grassland being retained around the proposed infrastructure will be managed in the same way as it is currently and so any fungi population present within those areas would be maintained.
Invasive Non-Native Species		
NRW	We note there are Invasive Non-Native Species (INNS) on site, a full INNS management plan will need to be produced and submitted with the full planning application.	INNS management plan for Himalayan Balsam has now been written and is provided at ES Volume III, Appendix 10.6: Invasive Non-Native Species Management Plan.
Other		
Wildlife Trust of South and West Wales	Comments from the Wildlife Trust of South and West Wales were received, and are provided in detail in the standalone Pre-Application Consultation Report.	Responses to the comments received are provided in the Pre-Application Consultation Report ; no further changes have been made to the ES chapter or appendices.

Additional Consultation / Information Request

10.2.5 **Table 10.4** provides a summary of the factor specific comments and information requests received by PEDW following a review of the ES.

Table 10.4 Summary of Additional Consultation/Information Requests (PEDW)

Consultee	Summary of matters	Applicant response
PEDW	Detailed explanation for both ES Chapters 10 and 11 as to why the surveys which are now over 2 years old are still considered to provide robust evidence for the baseline conditions of the site	The baseline ecology data is within the two years time frame. Although the initial ecology surveys began in 2023, all surveys have been kept up to date as the project has progressed. The bat statics targeted at the turbine locations were still valid for the 2025 survey season and the additional statics covering the solar areas provided sufficient information to show there was no significant change in the bat populations using the area. Additionally, there has been consistent survey effort throughout the last two years and the surveyors have noted no material change to the habitat type and condition within the Site.

Scope of the Assessment

- 10.2.6 The technical scope of this assessment has been established through an ongoing scoping process. As a result of this process, the technical scope of the assessment reported in this chapter comprises the following important ecological features:
- Cwm Risca Meadows Site of Special Scientific Interest (SSSI) – *construction and decommissioning*;
 - NPT Watercourses Site of Importance for Nature Conservation (SINC) – *construction and decommissioning*;
 - Cwm Nant Gwyn SINC – construction and decommissioning;
 - Nant Cwm-bach SINC – construction and decommissioning;
 - Gilfach Uchaf SINC – construction and decommissioning;
 - NPT Ancient Semi-Natural Woodland SINC - *construction and decommissioning*;
 - Woodland – *construction*;
 - Hedgerows (species-poor) – *construction*;
 - Fungi – construction;
 - GCN – construction and decommissioning;
 - Bats (roosting) – *construction*;
 - Bats (foraging and commuting) – *all phases*;
 - Hazel dormouse – *construction*;
 - Otter – construction and decommissioning; and
 - Invasive non-native species – *all phases*.
- 10.2.7 The following matters are considered unlikely to result in likely significant effects, and therefore have been scoped out of the assessment, as agreed through the EIA scoping process:
- Glaswelltiroedd Cefn Cribwr/Cefn Cribwr Grasslands SAC – *all phases*;
 - Blackmill Woodlands SAC – *all phases*;
 - Kenfig/Cynffig SAC – *all phases*;
 - Other nationally designated sites – *all phases* (5 sites within 2 km as listed in **ES Volume III, Appendix 10.1 Ecological Baseline Report**);
 - NPT Ancient Semi-Natural Woodland SINC – *all phases*;
 - Other non-statutory designations – *all phases* (24 sites within 2 km as listed in **ES Volume III, Appendix 10.1 Ecological Baseline Report**, except:
 - NPT Watercourses SINC;
 - Nant Cwm-bach SINC;
 - Cwm Nant Gwyn SINC;
 - Gilfach Uchaf SINC; and
 - NPT Ancient Semi-Natural Woodland SINC.

- Woodland – operation only;
- Marshy grassland – *all phases*;
- Marsh fritillary butterfly (as discussed in **Table 10.1**) – *all phases*;
- Other invertebrates – *all phases*;
- Fish – all phases;
- Reptiles – *all phases*;
- Badger – all phases;
- Water vole (as discussed in **Table 10.1**) – *all phases*;
- Pine marten – *all phases*; and
- Other priority species – *all phases*.

10.2.8 **Table 10.5** summarises where the scope of the assessment has changed since the receipt of the Scoping Direction (**ES Volume III, Appendix 1.2: Scoping Direction**).

Table 10.5 Receptor/matters Changed Since the Scoping Direction

Receptor/matter	Phase	Justification
Nant Cwm-bach SINC	Construction	Nant Cwm-bach SINC was not present within the Site boundary at the time of scoping. The Site boundary has since been changed, and it now encompasses all of Nant Cwm-bach SINC, so it has been scoped into the assessment.
Gilfach Uchaf SINC	Construction	Gilfach Uchaf was scoped out within the EIA scoping report as the SINC was not within the Site or expected to be impacted upon. The Site boundary has since been changed, and it now encompasses a small part of Gilfach Uchaf SINC, so it has been scoped into the assessment.
Hedgerows (species poor)	Construction	Hedgerows/hedge with trees were scoped out within the EIA scoping report; however, hedgerows/hedges with trees <i>will</i> be impacted by the Proposed Development. Hedgerow habitats are considered by the Welsh Ministers to be of ' <i>principal importance for the purpose of maintaining and enhancing biodiversity in relation to Wales</i> ', in accordance with Section 7 Environment (Wales) Act 2016 and therefore have been scoped into this chapter.

10.3 Methodology

- 10.3.1 This assessment has been undertaken in accordance with the following legislation, and with regard to the following planning policy and guidance. It should be noted that this chapter does not assess the compliance of the Proposed Development against relevant planning policy. Such an assessment is presented in the **Planning, Design and Access Statement** which accompanies the DNS application.

Legislation

- The Conservation of Habitats and Species Regulations 2017 (as amended) (HMSO, 2017);
- Wildlife and Countryside Act (WCA) 1981 (as amended) (HMSO, 1981);
- The Hedgerows Regulations 1997 (HMSO, 1997); and
- Environment (Wales) Act 2016 (HMSO, 2016).

National Planning Policy

- Future Wales – the National Plan 2040 (Welsh Government, 2021);
- Planning Policy Wales (Welsh Government Llywodraeth Cymru, 2024) – section 6.4 – Biodiversity and Ecological Networks; and
- Technical Advice Note (Wales) 5, Nature Conservation and Planning – September 2009 (Welsh Assembly Government, 2009).

Local Planning Policy

- Neath Port Talbot County Borough Council (NPTCBC) Local Development Plan 2011 – 2026 (Neath Port Talbot County Borough Council, 2016);
- Bridgend County Borough Council (BCBC) Replacement Bridgend Local Development Plan 2018 – 2033 (Bridgend County Borough Council, 2024); and
- Supplementary Planning Guidance 19 – Biodiversity and Development (Bridgend County Borough Council, 2014).

Guidance

- 10.3.2 The following guidance has informed the assessment of effects within this chapter:
- Guidelines for Ecological Impact Assessment in the UK and Ireland – Terrestrial, Freshwater, Coastal and Marine (Chartered Institute of Ecology and Environmental Management, 2018) (updated 2024); and
 - British Standard 42020:2013 British Standard Institution: Biodiversity Code of Practice for Planning and Development (British Standard Institution, 2013).
- 10.3.3 Guidance relating to specific protected species surveys have been included within **ES Volume III, Appendix 10.1 Ecological Baseline Report**.

Baseline Characterisation

Extent of the Study Area

- 10.3.4 The desk study was completed within and up to 2 km from the Site boundary, extended to 10 km for Special Protection Areas (SPAs), Species Areas of Conservation (SACs) and Ramsar sites. Data from South East Wales Biodiversity Record Centre (SEWBRc) was requested for within the Site and up to 2 km from the Site boundary. Further detail can be found in **ES Volume III, Appendix 10.1 Ecological Baseline Report**.
- 10.3.5 The baseline information presented within this chapter is focused on the 'study area', which is based on the current Site boundary together with a Zone of Influence (Zoi). The Zoi is defined within the CIEEM Guidance as *"the area over which ecological features may be affected by biophysical changes as a result of the Proposed Development and associated activities"*.
- 10.3.6 The Zoi extends beyond the Site boundary due to ecological and hydrological links beyond and is specific to receptors (where relevant these zones of influence are shown as buffers on the associated figures).
- 10.3.7 However, the majority of the activities and resultant biophysical changes listed in **Table 10.6** are unlikely to have an effect beyond the Site and the immediate surrounding area.

Table 10.6 Activities Likely to Generate Ecological Effects

Activity	Potential effect
Construction phase	
Site clearance	Loss of on-site habitats. Loss of resting sites/other specific habitat features used by species. Noise/lighting disturbance to vulnerable species. Individual mortality/injury to species. Dust and other pollutants.
Assembly and storage of machines and materials	Loss of on-site habitats. Noise/lighting disturbance to vulnerable species. Water-borne pollution including the risk of chemical and fuel spills.
Movement of construction vehicles	Noise/lighting disturbance to vulnerable species. Individual mortality/injury to species.
Lighting of works area	Disturbance to vulnerable species.
Earthworks, excavation and piling	Noise disturbance to vulnerable species.

Activity	Potential effect
Erection of new structures	Potential disturbance to vulnerable species.
Operational phase	
Lighting	Disturbance to vulnerable species.
Noise	Disturbance to vulnerable species.
Solar farm	Disturbance to bats.
Substation	Disturbance to bats.
Turbines	Collision risk/mortality of bats from operational wind farms (collision risk/mortality of birds is considered in ES Volume II, Chapter 11: Ornithology).
Habitat creation	Potential positive biodiversity benefit.

Desk Study

10.3.8 In order to establish the baseline conditions within the study area, data have been obtained from the following sources:

- A data records search was requested from SEWBRcC, which included a search for designated sites (both statutory and non-statutory) and protected and priority species records. Data was requested from SEWBRcC in May 2023.
- Multi-Agency Geographic Information Centre (Multi-Agency Geographic Information for the Countryside, 2025) for the location (and details) of international and national statutory designated sites, ancient woodland and notable habitats;
- Natural Resources Wales for SSSI designation information (Natural Resources Wales, 2025);
- Joint Nature Conservation Committee website (Joint Nature Conservation Committee, 2025) for details of Special Areas of Conservation (SACs) and Special Protection Areas (SPAs), including site information and designation details;
- Ordnance Survey (OS) maps (Microsoft Bing, 2025) for locations of potential waterbodies within 250 m of the Site; and
- Google Earth (Google Earth, 2025) for locations of potential waterbodies within 250 m of the Site and habitat connectivity within the Site and the wider landscape.

Field Studies

10.3.9 **Table 10.7** summarises all surveys that have been undertaken to inform the assessment presented within this chapter. Note bird surveys have been completed but are listed within **ES Volume II, Chapter 11: Ornithology**. The results for all surveys can be found in **ES Volume III: Appendix 10.1: Ecological Baseline Report**, unless otherwise stated.

Table 10.7 List of Surveys Completed to Date

Survey	Overview	Date of completion
Habitat survey (UKHab) Protected and priority species survey	Walkover survey of the 2023 Site boundary.	15 –18 May 2023
	Additional visits undertaken to encompass Site boundary changes.	April - June 2024
National Vegetation Classification	Thirty quadrats completed over six series.	14 and 15 August 2023 03 and 04 July 2024
Fungi survey (ES Volume III: Appendix 10.2: Grassland Fungi Survey Report)	Assessment for grassland fungi.	September and November 2024.
Bats – Preliminary Roost Assessment – Trees	Preliminary Bat Roost Assessment	14 January 2022
	Ground level tree assessment of 104 no. trees.	29 and 30 January 2025
Potential Roost Features (PRF) aerial inspection survey	Inspection of potential roost features in 7 no. trees by tree climbing.	05 and 06 March 2025
	Continued inspection of 2 trees identified as potential roosts following climbing survey.	21 June and 16 August 2025
Bats – Activity Surveys	<i>Turbine areas</i> Static bat detector survey (7 no. detectors) Transect survey (3 no. transects)	May, July and August 2023 June, August and October 2024
	<i>Solar areas</i> Static bat detector survey (4 no. detectors)	July and September 2024 April 2025
GCN surveys: - Habitat suitability index (HSI) - Presence/absence (eDNA) - Population estimate	38 no. waterbodies within 250 m of the Site.	April-June 2024
Otter and water vole surveys: - Habitat suitability - Presence/absence	16 no. watercourses surveyed within the Site.	May - June 2023 and July 2024

- 10.3.10 A Habitats Regulations Assessment screening assessment (**ES Volume III, Appendix 10.3: Habitats Regulations Assessment Screening Report**) has been completed, assessing the potential impacts on internationally designated sites.
- 10.3.11 In addition, a net benefit for Biodiversity report (**ES Volume III: Appendix 10.4: Net Benefit for Biodiversity Report**) has been undertaken, which includes a review of current baseline and post development designs to assess the predicted biodiversity loss and gains that would result from the Proposed Development.

Assessment Methodology

- 10.3.12 This assessment has been undertaken in accordance with best practice guidance for Ecological Impact Assessment, issued by the Chartered Institute of Ecology and Environmental Management (CIEEM, 2018) as summarised below. The aims of the assessment are to:
- Identify relevant ecological features (e.g. designated sites, habitats, species or ecosystems) which may be impacted;
 - Identify any potentially significant effects upon them arising from the development (during the construction, operation and decommissioning phase);
 - Establish the character/nature and significance of those identified effects;
 - Identify mitigation measures to address the significant effects;
 - Assess any residual effects and the need for any ecological compensation; and
 - Assess the cumulative effects of this project in combination with other projects.

Assessment Criteria

- 10.3.13 The assessment of likely significant effects has taken into account the construction, operation and decommissioning phases of the Proposed Development. The following sections define the approach adopted within the assessment for the determination of 'importance', the likely impacts, the level of effect and significance.

Importance

- 10.3.14 The first stage of the assessment was to determine the 'importance' of the ecological features. The CIEEM Guidelines place the emphasis on identifying different aspects of ecological importance including designations, biodiversity value, potential value, secondary or supporting value, social value, economic value, legal protection and multi-functional features. These values have been applied to the ecological features within a defined geographical scale, from 'international' to 'local'. The criteria used to define the 'importance' of the ecological features on a geographic scale are provided in **Table 10.8**.

Table 10.8: Defining the Importance of Ecological Features

Importance	Example criteria
International	An internationally designated site. A sustainable area of a habitat listed in Annex I of the Habitats Directive. Sustainable population of an internationally important species.
National	A nationally designated site. A sustainable area of a priority habitat identified in Section 7 of Environment (Wales) Act¹ Sustainable population of a nationally important species or site-supporting such a species (or supplying a critical element of their habitat requirement).
County	Some designated sites (including Sites of Importance for Nature Conservation, County Wildlife Sites or Sites of Metropolitan Importance). A viable area of habitat identified in the County BAP. Sustainable populations of the following species: - Species listed in a County/Metropolitan 'red data book' or BAP on account of its rarity/localisation in a county context; or - Sites supporting 1% or more of a county population.
Local	Very low importance and rarity, local scale: - Areas of habitat considered to appreciably enrich the habitat resource within the ecological study area itself; or - A small population of a species of conservation concern i.e., listed in the Local BAP.

10.3.15 Note that as Wales is a Region of the UK but is classed as a separate Nation, and the fact that Wales does not in general have District Authorities, Regional and District level importance, as defined in the CIEEM guidelines (CIEEM, 2018 updated 2024), are not used in this assessment.

¹ It should be noted, Section 7 of the Environment (Wales) Act 2016 (as amended) in this Chapter refers to updates provided by the Welsh Government in March 2026. As these updates were issued following completion of the appendices supporting this Chapter, the Section 7 updates have only been reflected in **ES Volume II, Chapter 10: Ecology**. Within this Chapter, the importance / conservation status of all species / habitats affected by these changes are assessed using the most recent conservation and legislative information available to inform the assessment of importance, and subsequently determine the assessment of effects. The baseline information presented within the supporting appendices remain valid.

Characterising Ecological Impacts

- 10.3.16 The next stage of this ecological impact assessment was to predict and characterise the likely change and impact on the ecological features identified. It was necessary to consider all of the following parameters:
- Whether the change is positive (beneficial) or negative (adverse);
 - The magnitude or severity of the change;
 - The extent of the area subject to a predicted impact;
 - The duration the impact is expected to last prior to recovery or replacement of the resource or feature;
 - The timing and frequency of the impact, i.e. conflicting with critical seasons or increasing impact through repetition; and
 - Whether the impacts are reversible, with recovery through natural or spontaneous regeneration, or through the implementation of mitigation measures or irreversible, when no recovery is possible within a reasonable timescale or there is no intention to reverse the impact.
- 10.3.17 CIEEM (2018) stresses the importance of the precautionary principle in the assessment of significant effects. It states, *“If sufficient information is not available further survey or additional research may be required. In cases of reasonable doubt, where it is not possible to robustly justify a conclusion of no significant effects, mitigation/compensation measures should be applied in accordance with the precautionary principle. Where uncertainty exists, it must be acknowledged in the EclA.”* Within this assessment, the level of confidence given to any professional judgements made has been presented using the following terms:
- Certain (95% probability or higher);
 - Probable (50-94% probability);
 - Unlikely (5-49% probability); or
 - Extremely unlikely (less than 5% probability).

Mitigation

- 10.3.18 The characterisation of ecological impacts has taken into consideration the primary (embedded) (see **ES Volume II, Chapter 4: Approach to EIA**), and secondary mitigation measures have been devised to address characterised impacts, where possible. Full details of all embedded mitigation measures can be found in **Table 10.13 Embedded Mitigation** and additional mitigation can be found in **Table 10.16 Additional Mitigation**.
- 10.3.19 Where on-site habitats are proposed as either embedded or additional mitigation (including re-instatement, improvement of existing habitats or new planting), it is recognised that the habitats would take time to develop (e.g., it takes c. 10 years for new hedgerows to fully mature). Therefore, in some instances, the construction phase reports both the short-term negative effects and the long-term positive effects.

Significance of Effect

- 10.3.20 For each residual effect (i.e., following the identification of secondary mitigation), a clear statement has then been made as to whether the effect is significant or not significant. The significance of effect on the 'important ecological features' was determined based on the analysis of the factors that characterise the impact as well as professional judgement. A significant effect is defined as *"an effect that either supports or undermines biodiversity conservation objectives for 'important ecological features'"* (Chartered Institute of Ecology and Environmental Management, 2018).
- 10.3.21 CIEEM guidance (Chartered Institute of Ecology and Environmental Management, 2018) states that determining the significance of effects using a matrix approach to produce a 'significance score' should be avoided for the ecology discipline of an EIA, due to the assumptions that would be required to create values that are not easily quantified. Therefore, this approach has not been used.
- 10.3.22 CIEEM Guidelines requires a clear statement as to whether or not an effect is significant and at what geographical scale, for example 'significant at the national level'. A significant effect can be either positive or negative. Throughout the assessment, regard has been paid to the Biodiversity Mitigation Hierarchy comprising avoid, minimise, mitigate and offset.

Inter-Project Cumulative Effects

- 10.3.23 The EIA process includes consideration as to whether any of the individual effects of the Proposed Development would combine to create a cumulative effect greater than the sum of the individual effects. **ES Volume II, Chapter 4: Approach to EIA** details the methodology followed in relation to assessing cumulative effects.

10.4 Baseline Conditions

- 10.4.1 The 577.6 ha Site is dominated by poor semi-improved and improved grassland; many of these fields bordered by hedgerows, with areas of wet, broad-leaved, other coniferous and mixed woodland, gorse and bramble scrub, marshy grassland and semi-improved neutral grassland. The Site is also dissected by watercourses in several locations. Areas of improved grassland are actively grazed by sheep, horses and cows, with areas also being mown for silage. Further information in relation to habitats can be found in **ES Volume III, Appendix 10.1 Ecological Baseline Report**.
- 10.4.2 The Site is predominantly bordered by further areas of agricultural land to the north, south and east, with the western border of the Site adjacent to both forested and agricultural areas. The surrounding area is generally made up of agricultural fields sparsely interrupted by forested areas with small residential areas immediately adjacent to the Site. A review of aerial photographs and Ordnance Survey maps show that there are 40 ponds located on or within 250 m of the Site, these are shown on **Figure 4 GCN eDNA Survey Results** in **ES Volume III, Appendix 10.1 Ecological Baseline Report**.

Existing Baseline

- 10.4.3 The following sections provide a summary of the current baseline conditions for the 'important ecological features'. Further detail is presented in **ES Volume III: Appendix 10.1: Ecological Baseline Report** and **ES Volume III: Appendix 10.2: Grassland Fungi Survey Report**.

Designated Sites

- 10.4.4 There is one national statutory designated site within 2 km of the Site, namely Cwm Risca Meadow SSSI. This SSSI is an old wet acidic meadow on coal measure rocks which supports over 80 species of herbaceous plants and a colony of marsh fritillary butterfly. Cwm Risca Meadow SSSI is adjacent to the south of the Site, as shown in **ES Volume IV: Figure 10.1: Important Ecological Features – Designated Sites**.
- 10.4.5 There are five non-statutory designated sites within 2 km of the Site that have been scoped into this assessment. These designated sites present are listed in **Table 10.9** along with their proximity to the Site.

Table 10.9: Non-statutory Designated Sites

Site name	Reason for designation	Distance from Site at closest point
NPT Watercourses Site of Importance for Nature Conservation (SINC)	Not Available – all NPT watercourses are designated as SINC.	0 m
Cwm Nant Gwyn SINC	Broadleaved woodland identified as ancient semi-natural woodland, which retains a good ground flora in places. The site is designated as a SINC within Bridgend County Borough Council.	0 m
Nant Cwm-bach SINC	Broad-leaved semi-natural woodland, coniferous plantation, marsh/marshy grassland. The site is designated as a SINC within Bridgend County Borough Council.	0 m
Gilfach Uchaf SINC	Mosaic of habitats including marsh/marshy grassland, semi-improved acid grassland, acid dry dwarf shrub heath, natural acid/neutral rock exposure. The site is designated as a SINC within Bridgend County Borough Council.	0 m
NPT Ancient Semi-Natural Woodland SINC	No information available.	10 m

Habitats

- 10.4.6 There are 29 areas of ancient semi-natural woodland, one area of ancient woodland of unknown category, nine areas of plantation on ancient woodland and 12 areas of restored ancient woodland within 1 km of the Site.
- 10.4.7 The habitats found on the Site are outlined in **Table 10.10** and their locations are shown in **ES Volume IV, Figure 10.2: Important Ecological Features – Habitats**. Further detail is provided in **ES Volume III: Appendix 10.1: Ecological Baseline Report** and **Figure 2 - Phase 1 Habitats Map** of that same report.

Table 10.10 Habitats On-site

Habitat	Components	Description
Woodland	Semi-natural woodland	Four areas of semi-natural woodland are located throughout the Site. These are predominantly made up of Oak (<i>Quercus robur</i>), Ash (<i>Fraxinus excelsior</i>), Sycamore (<i>Acer pseudoplatanus</i>), a Birch species (<i>Betula</i> sp.) with Hazel (<i>Corylus avellana</i>), Hawthorn (<i>Crataegus monogyna</i>), Blackthorn (<i>Prunus spinosa</i>) and Elder (<i>Sambucus nigra</i>). Other species present included Holly (<i>Ilex aquifolium</i>), Bluebell (<i>Hyacinthoides non-scripta</i>), Lesser Celandine (<i>Ficaria verna</i>), Common Nettle (<i>Urtica dioica</i>), Lady-fern (<i>Athyrium filix-femina</i>), Indian (Himalayan) Balsam (<i>Impatiens glandulifera</i>), Opposite-leaved Golden-saxifrage (<i>Chrysosplenium oppositifolium</i>) and Common Ivy (<i>hedera helix</i>). Two areas of wet woodland are present within the Site (Cwm Nant Gwyn SINC and an area of woodland in a valley located in the west of the Site), the canopy was dominated by a Willow (<i>Salix</i> sp.) and Alder (<i>Alnus glutinosa</i>) with some Rowan (<i>Sorbus aucuparia</i>) and Birch. The ground floor was generally bare and boggy in places, made of up of sparse vegetation including Creeping Buttercup (<i>Ranunculus repens</i>), Soft-rush, Cleavers (<i>Galium aparine</i>), Common Nettle, Meadowsweet (<i>Filipendula ulmaria</i>), Yellow Pimpernel (<i>Lysimachia nemorum</i>), Marsh Thistle (<i>Cirsium palustre</i>), Timothy (<i>Phleum pratense</i>), Yorkshire-fog (<i>Holcus lanatus</i>),

Habitat	Components	Description
		Sweet Vernal-grass (<i>Anthoxanthum odoratum</i>) and Dog Violet (<i>Viola riviniana</i>).
	Plantation woodland – coniferous and mixed	These woodland types are not considered to be important ecological features.
Hedgerows	Hedgerows - species-poor	Sixty-six intact and two defunct species-poor hedgerows are present within the Site. The hedgerows are predominantly Hawthorn, other species present include Blackthorn, Elder, Hazel, Holly, Rose (<i>Rosa</i> sp.) and Sycamore.
	Hedge with trees - species-poor	Eleven species-poor hedgerows with trees, predominantly Hawthorn with Ash trees, other species include: Blackthorn, Hazel, Oak and Holly.

Protected and Otherwise Notable Species

- 10.4.8 Baseline information on the protected and notable species scoped in for assessment are outlined in **Table 10.11** and are further discussed in **ES Volume III, Appendix 10.1: Ecological Baseline Report** and **ES Volume III, Appendix 10.2: Grassland Fungi Survey Report**.

Table 10.11: Protected and Notable Species

Protected and notable species	Description
Fungi	The fungi survey within the Site comprised of three areas considered to be likely to support grassland fungi. After the first visit, one survey area (eastern area) was removed and replaced with another survey area (northern survey area) this was due to the discovery that most of the area had been ploughed and reseeded in 2010). The eastern area was considered to have high value given the species identified on the first visit. Further detail can be found in ES Volume III, Appendix 10.2: Grassland Fungi Survey Report. Forty-four species of CHEGD² fungi (which are considered to be good indicators of nature conservation value for grassland fungi) were identified during the surveys. The survey categorised the four areas as either 'likely local value for grassland fungi' or 'likely county value or higher'. These areas

² *Clavariaceae* = Clubs and corals, *Hygrophoraceae* = Waxcaps, *Entolomataceae* = Pinkgills, *Geoglossaceae* = Earthtongues, and *Dermoloma* and allied genera = Crazy-caps, Meadowcaps and Fan-vaults

Protected and notable species	Description																					
	are shown in ES Volume IV: Figure 10.3: Important Ecological Features Protected Species (excluding bats) with further information provided in ES Volume III, Appendix 10.2: Grassland Fungi Survey Report .																					
GCN	The desk study returned 32 records of GCN within 2 km of the Site. All records were from Parc Slip Nature Park SINC (located 150 m to the south of the Site). Forty waterbodies were present within 250 m of the Site shown in Figure 4: GCN eDNA Survey Results of ES Volume III, Appendix 10.1 Ecological Baseline Report. The HSI survey categorised these follows: <table><tr><th>GCN habitat suitability</th><th colspan="2">Waterbodies (no.)</th></tr><tr><td></td><th>On-site</th><th>Off-site</th></tr><tr><td>Poor</td><td>9</td><td>6</td></tr><tr><td>Below average</td><td>3</td><td>3</td></tr><tr><td>Average</td><td>2</td><td>1</td></tr><tr><td>Good</td><td>1</td><td>-</td></tr><tr><td>Excellent</td><td>1</td><td>-</td></tr></table> Fourteen off-site waterbodies were not assessed as they were found to be flowing watercourses which are unsuitable for GCN, or access permission was not granted for survey. Presence/absence surveys using eDNA were carried out at 14 waterbodies. GCN was confirmed to be present at just one waterbody (off-site) (this is shown in ES Volume IV, Figure 10.3: Important Ecological Features – Protected Species (Excluding Bats)). Eleven waterbodies were subject to population estimate surveys. No GCN were found during population estimate surveys. Palmate newt (<i>Lissotriton helveticus</i>) or unidentified newts (of either palmate or smooth newt (<i>Lissotriton vulgaris</i>)) were present in the majority of the waterbodies. Further detail provided in ES Volume III, Appendix 10.1: Ecological Baseline Report. Therefore, GCN are assumed to be absent within the Site.	GCN habitat suitability	Waterbodies (no.)			On-site	Off-site	Poor	9	6	Below average	3	3	Average	2	1	Good	1	-	Excellent	1	-
GCN habitat suitability	Waterbodies (no.)																					
	On-site	Off-site																				
Poor	9	6																				
Below average	3	3																				
Average	2	1																				
Good	1	-																				
Excellent	1	-																				
Bats (roosting)	The desk study returned records of the following bat species within 2 km of the Site: Serotine (<i>Eptesicus serotinus</i>), Daubenton’s bat (<i>Myotis daubentonii</i>), Whiskered bat (<i>Myotis mystacinus</i>), Natterer’s bat (<i>Myotis nattereri</i>), Noctule bat (<i>Nyctalus noctule</i>), Common pipistrelle (<i>Pipistrellus pipistrellus</i>), Soprano pipistrelle (<i>Pipistrellus pygmaeus</i>), Brown long-eared bat (<i>Plecotus auritus</i>), Greater horseshoe bat (<i>Rhinolophus</i>																					

Protected and notable species	Description
	<i>ferrumequinum</i>) and Lesser horseshoe bat (<i>Rhinolophus hipposideros</i>). All records but one were off-site. A record of a brown long-eared roost was identified within Cwm Nant Gwyn SINC, but it is uncertain if this record is on or off-site as the grid reference associated with the record is too coarse to precisely locate, and the SINC extends beyond the Site boundary. Seven trees within the Site were found to potentially provide roosting opportunities for bats. Aerial inspections of seven trees were completed in March 2025 following appropriate guidelines (Collins, 2016). Two trees of the seven inspected were identified as offering roosting potential that requires further surveys to inform a licence application. These further surveys were completed in June and August 2025 which concluded that only T27 offered roosting potential for multiple bats.
Bats (foraging and commuting)	A total of 14 species were recorded within the study area with the majority of registrations being from Common and Soprano pipistrelles which are common and widespread in the area. Some of the rarer species were recorded in smaller numbers. The hedgerow and woodland within and adjacent to the Site are considered to provide important flightlines and foraging areas, however there is an abundance of this habitat within the wider area with connectivity to the known roosts.
Hazel dormouse	The desk study returned six records of dormice within 2 km of the Site. There were no records within the Site. Hedgerows and woodland within the Site were considered to be suitable for dormice. To date no surveys have been undertaken; however, given the presence of dormice within the area and suitable habitat within the Site, as per Section 10.3 the presence of dormice within the Site has been assumed on a precautionary basis and considered in the assessment.
Otter	The desk study returned 16 records of otter within 2 km of the Site. There were no records within the Site. There are numerous waterbodies within the Site, the majority of which are considered to be unsuitable for otter due to dry watercourses or watercourses holding a small amount of water and therefore unlikely to provide a foraging resource. Further information is provided in ES Volume III, Appendix 10.1: Ecological Baseline Report. Overland dispersal of otter between catchment areas has been considered during the design stage. Embedded mitigation in relation to this is discussed below in Section 10.5.

Protected and notable species	Description
	No signs of otter were recorded within 2023 or 2024.

Invasive Non-native Species

- 10.4.9 Himalayan Balsam was found throughout the Site, there was an especially high concentration around existing tracks within the Site and within wetter habitats. Japanese Knotweed (*Reynoutria japonica*) was identified at eight locations within the Site and a single stand of Montbretia (*Crocsmia* sp.) was identified along the edge of the existing access road to the north of the of the Site. The location of Japanese Knotweed and Montbretia can be found in **ES Volume IV, Figure 10.5: Important Ecological Features – Invasive Non-Native Species.**

Important Ecological Features

- 10.4.10 **Table 10.11** sets out the ecological features scoped in as relevant to this assessment and their assigned importance. The location of these ecological features are illustrated in **ES Volume IV, Figures 10.1 – Figure 10.5.**

Table 10.12: ‘Importance’ of Ecological Features

Important ecological feature	Description	Importance
Cwm Risca Meadow SSSI	Cwm Risca Meadow SSSI is located off-site, but directly adjacent to the southern boundary of the Site. The SSSI was designated on the basis of its nationally important habitats, diverse flora, and colony of marsh fritillary butterfly.	National
NPT Watercourses SINC	NPT watercourses SINC is located within the west of the Site. All watercourses are designated as SINC within Neath Port Talbot Council jurisdiction and are of county level importance.	County
Cwm Nant Gwyn SINC	Cwm Nant Gwyn SINC is partially present within the Site. The habitats present (broad leaved semi natural woodland) have been identified by BCBC to be of importance at the county level.	County

Important ecological feature	Description	Importance
Nant Cwm-bach SINC	Nant Cwm-bach SINC is wholly present within the Site. The habitats present (broad leaved semi natural woodland) have been identified by BCBC to be of importance at the county level.	County
Gilfach Uchaf SINC	Gilfach Uchaf SINC is partially present within the Site. The habitats present (mosaic of habitats including grasslands, shrub heath, and natural acid/neutral rock exposure) have been identified by BCBC to be of importance at the county level.	County
NPT Ancient Semi-Natural Woodland SINC	NPT Ancient Semi-Natural Woodland SINC is located 10 m west of the Site. The site has been identified by NPT council to be of importance at the county level.	County
Woodland	There are six areas of semi-natural woodland within the Site.	Local
Hedgerows (species poor)	All hedgerows contain native species and so qualify as Habitats of Principal Importance because they only need to have 80% or more cover of at least one woody UK native species. Hedgerows are important habitats for many protected species including bats and dormice and provide important wildlife habitat and corridors providing connectivity across the landscape. Hedgerow habitats are considered by the Welsh Ministers to be of '<i>principal importance for the purpose of maintaining and enhancing biodiversity in relation to Wales</i>', in accordance with Section 7 Environment (Wales) Act 2016. The hedgerows within the Site are species-poor and there are a large amount of hedgerows within the wider area. Therefore, for the purpose of this assessment, hedgerows are considered to be of local importance.	Local

Important ecological feature	Description	Importance
Fungi	The survey identified 44 CHEGD³ fungi considered to be good indicators of nature conservation value for grassland fungi. Areas of the Site with high assemblages of CHEGD fungi (as shown in ES Volume III, Appendix 10.2: Grassland Fungi Survey Report), for the purposes of this assessment is considered to be of county importance for fungi.	County
Fungi	Areas of the Site with lower assemblages/density of CHEGD fungi (as shown in ES Volume III, Appendix 10.2: Grassland Fungi Survey Report), is considered to be of local importance for fungi.	Local
Great crested newt	GCN was recorded within 250 m of the Site (75 m south). Given the presence of GCN within the area and absence of them within the Site, the Site is considered to be of local importance for GCN. GCN is listed as Least Concern on the IUCN red list (Foster, 2021). GCN is considered by the Welsh Ministers to be of '<i>principal importance for the purpose of maintaining and enhancing biodiversity in relation to Wales</i>', in accordance with Environment (Wales) Act 2016 Section 7. The species is fully protected by the Conservation of Habitats and Species Regulations 2017 (as amended) Section 43 and receives partial protection under Wildlife and Countryside Act 1981 (as amended) Section 9.	Local

³ Clavariaceae = Clubs and corals, Hygrophoraceae = Waxcaps, Entolomataceae = Pinkgills, Geoglossaceae = Earthtongues, and Dermoloma and allied genera = Crazy-caps, Meadowcaps and Fan-vaults

Important ecological feature	Description	Importance
Bats (roosting)	Seven trees with suitability for roosting bats were recorded in the Site. The trees are of local importance for bats as while they are suitable, these were subsequently subject to aerial inspections and only one remains potentially suitable for roosting bats. Eight species of bats (including these six identified within the baseline data: noctule, common pipistrelle, soprano pipistrelle, brown long-eared bat, greater horseshoe bat, lesser horseshoe bat) are considered by the Welsh Ministers to be of '<i>principal importance for the purpose of maintaining and enhancing biodiversity in relation to Wales</i>', in accordance with Environment (Wales) Act 2016 Section 7. All native bat species are fully protected by the Conservation of Habitats and Species Regulations 2017 (as amended) Section 43 and receive partial protection under Wildlife and Countryside Act 1981 (as amended) Section 9.	Local
Bats (foraging and commuting)	A total of 14 species were recorded within the study area with the majority of registrations being from Common and Soprano pipistrelles which are common and widespread in the area. Some of the rarer species were recorded in small numbers. The hedgerow and woodland within and adjacent to the Site are considered to provide important flightlines and foraging areas, however there is an abundance of this habitat within the wider area with connectivity to the known roosts. The Site has an overall risk assessment score of 3 (small project size in a high habitat risk area). The activity levels	Local

Important ecological feature	Description	Importance
	were 'High' (15) for common, soprano and Nathusius' pipistrelle, <i>Nyctalus</i> spp. and Barbastelle. This would suggest that at certain peak times of activity the collision risk for these species would be 'High'. [For species protection/status for bats, see row above.]	
Hazel dormouse	Dormice are present within the area and hedgerows and woodland within the Site are considered suitable for dormice. Dormice have been assumed as present within the Site for this assessment. As dormice are present within the wider area, the Site is considered to be of local importance for dormice. Hazel dormouse is listed as Vulnerable on the IUCN red list (Mammal Society, 2020). Hazel dormouse is considered by the Welsh Ministers to be of '<i>principal importance for the purpose of maintaining and enhancing biodiversity in relation to Wales</i>', in accordance with Environment (Wales) Act 2016 Section 7. The species is fully protected by the Conservation of Habitats and Species Regulations 2017 (as amended) Section 43 and receives partial protection under Wildlife and Countryside Act 1981 (as amended) Section 9.	Local
Otter	No evidence of otter was found during surveys however, they are known to be present in the wider area. Therefore, the Site is considered to be of Local importance for otter. Otter is listed as Vulnerable on the IUCN red list (Mammal Society, 2020).	Local

Important ecological feature	Description	Importance
	Otter is considered by the Welsh Ministers to be of '<i>principal importance for the purpose of maintaining and enhancing biodiversity in relation to Wales</i>', in accordance with Environment (Wales) Act 2016 Section 7. The species is fully protected by the Conservation of Habitats and Species Regulations 2017 (as amended) Section 43 and receives partial protection under Wildlife and Countryside Act 1981 (as amended) Section 9.	
Invasive non-native species	Himalayan balsam, Japanese Knotweed and Montbretia were identified within the Site. Irrespective of the Proposed Development, these species have had, and will continue to have, an adverse effect the condition and species richness of the habitats present within the Site. The Invasive Alien Species (Enforcement and Permitting) Order 2019 Article 3 makes it an offence to plant Himalayan balsam, or otherwise cause it to grow in the wild. The Wildlife and Countryside Act 1981 (as amended) Section 14 makes it an offence to plant Montbretia and Japanese Knotweed or otherwise cause these species to grow in the wild.	N/A

Future Baseline in the Absence of the Proposed Development

Land Management

- 10.4.11 It is anticipated that the future baseline, in the absence of further development within the Site, will be relatively similar to the current baseline and the importance of the ecological features would be relatively similar to that of the existing baseline conditions described above. Without active control measures in place, the extent of invasive species is predicted to increase.

- 10.4.12 The habitat within the Site is largely grazed grassland, bordered by hedgerows or fences. In the short to medium term, in the absence of the Proposed Development, these habitats would likely continue to be managed at the same level which would continue to provide habitat for species such as good assemblages of fungi and foraging and commuting bats.
- 10.4.13 In the longer term (equivalent to the 50-year operational phase) in the absence of the Proposed Development, broad habitat types would likely continue under agricultural management. The majority of existing habitats are likely to continue being present, although some changes in habitat extent, composition and structure would occur as a result of ecological succession, such as the establishment of tree and shrub seedlings. In addition to this, it is likely that habitat condition within the Site would deteriorate due to the continuation of current agricultural practices. These resultant gradual changes in habitat composition/condition could impact the habitats' ability to support protected and priority species (such as dormice and bats), which would lead to local population declines.

Climate Change

- 10.4.14 Long-term climatic predictions suggest that warmer, wetter winters and drier summers will become more frequent, with more extreme weather events likely. Combined with changes in land management, increased urbanisation, and increased biotic pressures, climate change may lead to long term changes in the population and distribution of some species in the UK. However, no significant changes to the current baseline assessed herein are envisaged in the short-term, and there is considerable uncertainty about how any national changes in abundance and distribution of species would affect the current baseline. In the long term, climate change is likely to alter the composition and distribution of species of some taxon groups.
- 10.4.15 Changes in weather patterns (aridity during summer) could lead to soils losing moisture which could impact grassland fungi. Fluctuating winter temperatures and increased precipitation could negatively impact hibernating species such as Hazel dormouse. Fluctuating temperatures throughout the year could impact prey species such as invertebrates which could have a knock-on effect on amphibian species such as GCN or bats. Temperature fluctuations could impact plant life cycles which could impact species reliant on plants for food sources such as Hazel dormouse. These changes caused by climate change could negatively impact species composition within the Site.
- 10.4.16 Hedgerows and woodland present in the Site are considered to be of low sensitivity to climate change according to Natural England's Climate Change Adaption Manual (Natural England, 2020).
- 10.4.17 The Nature Recovery Action Plan for Wales (Welsh Government, 2016) states that the number and range of invasive non-native species is likely to increase with the changing climate, and Natural England's Climate Change Adaption Manual states the presence of environmental pressures (including invasive species) will exacerbate the impacts of climate change.

10.5 Mitigation Embedded into the Design

- 10.5.1 This assessment has been based on the principle that measures have been ‘embedded’ into the design of the Proposed Development to remove potential significant effects as far as practicable, for example by the considered placement of infrastructure. The embedded mitigation relevant to this assessment is detailed in **Table 10.13**.

Table 10.13 Embedded Mitigation

Embedded mitigation measure relevant to biodiversity	Function
Cwm Risca Meadow SSSI will be avoided. There will be a minimum distance of 110 m between the SSSI and Proposed Development infrastructure.	Implementing and maintaining distance from the SSSI will prevent any direct / indirect damage to the SSSI during construction as ES Volume II, Chapter 6: Water confirms that the Site is hydrologically linked to Cwm Risca Meadow SSSI. The proposed watercourse crossings do not cross the Ordinary Watercourses which are hydrologically linked to Cwm Risca SSSI and no discharges are proposed to this protected area. As such, the hydrological regime of the SSSI will remain unchanged and water quality maintained.
NPT Watercourses SINC and Cwm Nant Gwyn SINC will be avoided. There will be a minimum buffer of 15 m between the SINC and construction areas.	Implementing and maintaining 15 m buffers from the SINC will prevent any direct damage to the Sites during construction.
Nant Cwm-bach SINC will be avoided (with the exception of where an access track is required to cross the SINC). However, crossings will be kept to a minimum and mitigated for within the Site.	To minimise the likely effects of the Proposed Development on the SINC.
All woodland will be retained. There will be a minimum 15 m offset from the built development to existing woodland. In a small number of locations, the access track for turbines will need to be extended slightly with grasscrete either side. No woodland will be lost but some minor vegetation	Implementing and maintaining 15 m buffers will prevent any direct damage to tree root protection area of woodlands during construction.

Embedded mitigation measure relevant to biodiversity	Function
clearance will occur within the 15 m buffer.	
10 m offset from existing hedgerows (with the exception of where access tracks and/ or cable routes are required to cross an existing feature, or where upgrading of access track is required to facilitate access; however, crossings will be kept to a minimum and mitigated for where practical). Placement of access track through hedgerow gaps where possible.	Implementing and maintaining 10 m buffers will prevent any direct damage to hedgerows and tree root protection zones during construction. This buffer also provides a 10 m wide wildlife corridor across the Proposed Development, providing uninterrupted foraging and dispersal. The wide buffers from linear field boundaries will maintain bat flight lines across the landscape. Bats roosting in hedgerow trees would have a 10 m buffer from any works disturbance. Placement of the access track through hedgerow gaps minimises the amount of hedgerow removal required which will maintain connectivity throughout the Site.
10 m offset from watercourses (with the exception of where access tracks are required to cross an existing feature; however, crossings will be kept to a minimum and mitigated for where practical)	Implementing and maintaining 10 m buffers will prevent any direct damage to watercourses and their banks during construction.
Turbine locations were designed with a triangulated 50 m buffer from the blade tips to the vegetation.	Implementing and maintaining this buffer will minimise the collision risk with foraging bats.
Blade feathering to be applied to all turbine blades between April – October to reduce rotation speeds to below 2rpm while idling.	Implementing this will minimise the collision risk with foraging bats.
Lighting design	During operation (including maintenance), no part of the Proposed Development would be continuously lit (turbine lighting considered below); manually operated and motion detection lighting would be utilised for operational and security purposes. Passive infrared detectors (PID) would be implemented around Solar PV modules, and lighting sensors

Embedded mitigation measure relevant to biodiversity	Function
	implemented around the Mynydd Ty-talwyn substation compound. A reduced lighting scheme has been designed for the turbines. This aims to identify the outline of the wind farm by using 2000 candela (cd) visible red lights on only three perimeter turbines (turbines 1, 5 and 6). Infrared lighting would also be installed on all six turbines.
Watercourse crossings (open span bridge or bottomless arch culvert) to aid construction of access tracks	Footings of the open span bridge will be set away from the banks of the watercourse and there will be no direct impacts to watercourse itself so as to not impede otter movement or their food sources.
Fencing will be installed around the Proposed Development that will be implemented early in the construction phase to secure the Site. Fences will have 'two-way mammal gates' installed (approximate width 300 mm and height 500 mm), the fencing will be post and wire allowing mammals to pass through. Mammal gates will not be installed on the substation fences. Solar areas will be fenced off. Appropriate buffer zones (e.g. 10 m buffer from hedgerows) will be marked by fencing and signage.	Mammal gates will allow animals, such as otter, to fully access areas under solar PV modules for foraging and to allow dispersal across the area. Fencing of the substation will not impede mammal access throughout the Site due to the location and size of the substation. The 10 m wide buffer zone between fences and hedgerows will also allow animals such as deer to disperse across the area. Fencing will prevent construction activity in proximity to important habitats or species (e.g. SSSI, SINC, hedgerows, fungi areas) within and adjacent to the Proposed Development and where required specific tree protection measures will be implemented, including fencing and construction exclusion zones.
Hedgerow planting (3.26 km of new planting), see ES Volume IV: Figure 10.6: Impacts and Mitigation.	To mitigate for the loss of 169 m of hedgerow. Details outlined in the Outline Habitat Management Plan (OHMP) (ES Volume III, Appendix 10.4: Net Benefit for Biodiversity)

Embedded mitigation measure relevant to biodiversity	Function
	Report) including landscape proposal plan.
Woodland planting to extend woodland associated with Cwm Nant Gwyn SINC and planting of new woodland throughout the Site (19.05 ha; see ES Volume IV: Figure 10.6: Impacts and Mitigation) and provide additional foraging/nesting habitat for a range of protected species (birds, bats, hedgehog, toad, dormice).	To mitigate for trees lost (0.08 ha) due to access tracks. Details outlined in the OHMP (ES Volume III, Appendix 10.4: Net Benefit for Biodiversity Report) including landscape proposal plan
Bat box installation and woodland planting To provide replacement roost features in the landscape. The bat boxes will act as compensatory roosts for the loss of trees with roosting potential and the woodland planting will provide future roosting habitat for the bat population.	To mitigate for the loss of T72 which has potential to support a maternity roost (PRF-M) and T3, T72, T88, T97 and T98 which have potential to support non-breeding bat roosts (PRF-I). Details outlined in the Outline Habitat Management Plan (OHMP) (ES Volume III, Appendix 10.4: Net Benefit for Biodiversity Report).

10.6 Assessment of Likely Effects (Without Additional Mitigation)

Construction and Decommissioning

- 10.6.1 **Table 10.14** overleaf identifies the likely effects of the Proposed Development (without additional mitigation) during both the construction and decommissioning phases. The impacts and likely effects on the important ecological features are likely to be similar within both phases.

Table 10.14 Assessment of Likely Effects (Without Additional Mitigation) During the Construction and Decommissioning Phases

Paragraph number	Important ecological feature	Description of impact	Impact characteristics	Description of likely effect
1.	Cwm Risca Meadow SSSI (National importance)	There will be no direct impacts as the SSSI is off-site with at least a 110 m buffer from the development. Potential existing or introduced sources of pollution/contamination could indirectly impact Cwm Risca SSSI should the contamination enter the groundwater or be mobilised by surface water runoff which would drain towards the SSSI in some locations of the Site (See ES Volume IV, Figure 6.1 Cwm Risca Meadows SSSI Catchments). Possible increase in air pollutants (including dust) from construction of the Proposed Development. Decommissioning impacts are likely to be similar to those at the construction stage.	This impact would be negative, temporary and reversible.	Indirect effect on species rich acid meadow which could lead to potential changes in floral and faunal species assemblages. Without additional mitigation the SSSI has the potential be adversely affected by pollution during construction and decommissioning.

Paragraph number	Important ecological feature	Description of impact	Impact characteristics	Description of likely effect
		The proposed watercourse crossings do not cross the Ordinary Watercourses which are hydrologically linked to Cwm Risca SSSI and no discharges are proposed to this protected area. As such, the hydrological regime and water quality of the SSSI will remain unchanged.		
2.	NPT Watercourses SINC (County importance)	Pollution from construction works directly entering the watercourse via surface water run off or entering the groundwater and potentially ending up at the designated site would directly impact NPT Watercourses SINC. Increase in possible air pollutants from construction of the Proposed Development. Decommissioning impacts are likely to be similar to those at the construction stage.	This impact would be negative, temporary and reversible.	Indirect effect on watercourse which could (without mitigation) alter the integrity of the SINC and associated species. Without additional mitigation the SINC has the potential be adversely affected by pollution during construction and decommissioning.

Paragraph number	Important ecological feature	Description of impact	Impact characteristics	Description of likely effect
3.	Cwm Nant Gwyn SINC (County importance)	Pollution from construction works entering groundwater or being transported across the Site as surface run off could potentially end up at the designated site and would indirectly impact Cwm Nant Gwyn SINC. Increase in possible air pollutants (including dust) from construction of the Proposed Development. Decommissioning impacts are likely to be similar to those at the construction stage.	This impact would be negative, temporary and reversible.	Indirect effect on woodland which could (without mitigation) alter the integrity of the SINC. Without additional mitigation the SINC has the potential be adversely affected by pollution during construction and decommissioning.
4.	Nant Cwm-bach SINC (County importance)	Pollution from construction works entering groundwater or being transported across the Site as surface run off could potentially end up at the designated site and would indirectly impact Nant Cwm-bach SINC. Increase in possible air pollutants (including dust) from construction of the Proposed Development.	This impact would be negative, temporary and reversible.	Indirect effect on the woodland which could alter the integrity of the SINC. Without additional mitigation the SINC has the potential be adversely affected by pollution during construction and decommissioning.

Paragraph number	Important ecological feature	Description of impact	Impact characteristics	Description of likely effect
		Decommissioning impacts are likely to be similar to those at the construction stage.		
		Construction of an access track across Nant Cwm-bach SINC will directly impact the SINC. No decommissioning impacts are anticipated.	This impact would be negative, permanent and is irreversible.	Direct effect on the woodland associated with the loss of trees within the designation. Without additional mitigation the SINC has the potential be adversely affected by habitat loss and fragmentation due to vegetation clearance during construction.
5.	Gilfach Uchaf SINC (County importance)	Pollution run off from construction works, potentially ending up at the designated site would indirectly impact Gilfach Uchaf SINC. The habitats for which the SINC are designated are upstream of the Proposed Development (See ES Volume IV, Figure 6.2: Designation Mapping and Local Topography Comparison). Increase in possible air pollutants (including dust) from construction of the Proposed Development.	This impact would be negative, temporary and reversible.	Indirect effect on a habitat which is not a qualifying feature of the SINC. Pollution run-off within improved grassland will not adversely affect the SINC.

Paragraph number	Important ecological feature	Description of impact	Impact characteristics	Description of likely effect
		Decommissioning impacts are likely to be similar to those at the construction stage.		
		Construction of an access track across Gilfach Uchaf SINC will directly impact improved grassland, which although is present within the SINC boundary, is not a qualifying feature of the SINC. No decommissioning impacts are anticipated.	This impact would be negative, permanent and is irreversible.	Direct effect on a habitat which is not a qualifying feature of the SINC. The construction of an access track within improved grassland will not adversely affect the SINC.
6.	NPT Ancient Semi-Natural Woodland SINC (County importance)	Pollution run-off from construction works, potentially ending up at the designated site would indirectly impact NPT Ancient Semi-Natural Woodland SINC. Increase in possible air pollutants (including dust) from construction of the Proposed Development. Decommissioning impacts are likely to be similar to those at the construction stage.	This impact would be negative, temporary and reversible.	Indirect effect on the woodland which could alter the integrity of the SINC. Without additional mitigation the SINC has the potential be adversely affected by pollution during construction and decommissioning.

Paragraph number	Important ecological feature	Description of impact	Impact characteristics	Description of likely effect
7.	Woodland (Local importance)	Construction of an access track will directly impact 0.08 ha of woodland. No wet woodland will be impacted as part of the Proposed Development. No decommissioning impacts are anticipated.	The impact of this loss would be negative, medium-term, permanent and reversible.	Direct effect on the woodland which could alter the integrity of the woodland. The woodland has the potential to be adversely affected by habitat loss and fragmentation due to vegetation clearance during construction in the medium-term (approximately 35 years) until replacement planting is established at which time the effect would be positive (see below).
		The creation of 19.05 ha of woodland is proposed within the Site, which will substantially increase the amount of woodland within the Site.	This impact would be positive, long-term, permanent and reversible.	There would be a long-term, creation of woodland due to the proposed new planting resulting in a beneficial effect.
8.	Hedgerows (Local importance)	Removal of vegetation to facilitate construction activities leading to loss of small sections of hedgerow totalling 169 m of hedgerow. No decommissioning impacts anticipated.	This impact would be negative, temporary and is irreversible.	Direct loss of 169 m of hedgerow within the Site. The loss of hedgerow will lead to fragmentation of habitats which could lead to impacts on protected species movements (e.g. dormice), leading to adverse effects in the short to short-term (10 years) until replacement planting is established at which time the effect would be positive (see below).

Paragraph number	Important ecological feature	Description of impact	Impact characteristics	Description of likely effect
		To mitigate the loss of 169 m of hedgerow, 3.26 km of hedgerow is proposed across the Site.	This impact would be positive, long-term, permanent and reversible.	There would be an increase in hedgerows within the Site, improving connectivity between habitats within and adjacent to the Site, resulting in a beneficial effect.
9.	Fungi (County importance)	Pollution from construction works entering groundwater or being transported across the Site as surface run off, potentially contaminating surrounding habitat. Increase in possible air pollutants (including dust) from construction of the Proposed Development These could affect (reduce) the fungi assemblage present. Decommissioning impacts are likely to be similar to those at the construction stage.	This impact would be negative, temporary and reversible.	Indirect effect on fungi which could alter the species assemblage. Without additional mitigation county assemblages of fungi have the potential be adversely affected by pollution during construction and decommissioning.
		Removal of vegetation containing fungi to facilitate construction activities including plant tracking through habitat.		Direct habitat loss and degradation of habitat. Without additional mitigation, areas of county importance for fungi have the potential be adversely affected by mortality of fungi, habitat loss and

Paragraph number	Important ecological feature	Description of impact	Impact characteristics	Description of likely effect
		Decommissioning impacts are likely to be similar to those at the construction stage.		degradation during construction and decommissioning.
10.	Fungi (Local importance)	Removal of vegetation containing fungi to facilitate construction activities including plant tracking through habitat. Decommissioning impacts are likely to be similar to those at the construction stage.	This impact would be negative, permanent and is irreversible.	Direct habitat loss and degradation of habitat. Without additional mitigation, areas of local importance for fungi have the potential be adversely affected by mortality of fungi, habitat loss and degradation during construction and decommissioning.
		Pollution from construction works entering groundwater or being transported across the Site as surface run off, potentially contaminating surrounding habitat. Increase in possible air pollutants (including dust) from construction of the Proposed Development. These could affect (reduce) the fungi assemblage present.	This impact would be negative, temporary and reversible.	Indirect effect on fungi which could alter the species assemblage. Without additional mitigation, areas of local importance for fungi have the potential be adversely affected by pollution during construction and decommissioning.

Paragraph number	Important ecological feature	Description of impact	Impact characteristics	Description of likely effect
		Decommissioning impacts are likely to be similar to those at the construction stage.		
11.	GCN (Local importance)	No impacts to GCN are anticipated as there are no construction activities taking place within 350 m of the nearest waterbody with GCN presence. No decommissioning impacts are anticipated.	No impact	GCN are unlikely to be affected by the Proposed Development.
12.	Bats (roosting) (Local importance)	Removal of potential bat roosting trees to facilitate construction activities. No decommissioning impacts are anticipated.	This impact would be negative, permanent and irreversible.	Construction activities could directly impact bat roosting habitat. Without additional mitigation, roosting bats have the potential be adversely affected by harm or mortality of individuals within roosts and loss of roosts during construction.
13.	Bats (foraging and commuting) (Local importance)	Removal of hedgerows to facilitate construction activities leading to loss of small sections of hedgerow totalling 169 m of hedgerow. The removal of sections of hedgerows could lead to fragmentation of habitats which could prevent bats moving around	This impact would be negative, permanent and is irreversible.	Construction activities, including lighting, could directly impact bat foraging/commuting habitat. Without additional mitigation bats have the potential be adversely affected by loss of/fragmentation of suitable habitat

Paragraph number	Important ecological feature	Description of impact	Impact characteristics	Description of likely effect
		the landscape. The removal of small sections of hedgerows could lead to a reduction in prey availability within the Site which may affect foraging bats. Construction lighting, if unmanaged, could displace foraging bat species. No decommissioning impacts are anticipated.		and reduction of prey availability during construction.
14.	Hazel dormouse (Local importance)	Removal of vegetation to facilitate construction activities (including providing space for abnormal loads to over sail access roads) leading to loss of small sections of hedgerow totalling 169 m of hedgerow. The removal of sections of hedgerows could lead to fragmentation of habitats which could prevent dormice moving around the landscape. No decommissioning impacts are anticipated.	This impact would be negative, permanent and is irreversible.	Construction activities could directly impact dormouse habitat. Without additional mitigation, dormice have the potential be adversely affected by mortality of individuals, loss of/fragmentation of suitable foraging, resting and commuting habitat during construction.

Paragraph number	Important ecological feature	Description of impact	Impact characteristics	Description of likely effect
15.	Otter (Local importance)	Access tracks are required over watercourses within the Site. It is anticipated that these crossings would be either open span bridges or failing that a bottomless arch culvert (See ES Volume II, Appendix 6.1: Watercourse Crossing Baseline Assessment). The construction works could cause disturbance to otter if present within the northern watercourse area which could temporarily prevent otter movement. A roadside ditch located to the south of the Site will require culverting as part of the works. This watercourse is not considered to be suitable for otter. Decommissioning impacts are likely to be similar to those at the construction stage.	This impact would be negative, temporary and is reversible.	Construction and decommissioning activities will temporarily take place within proximity to two watercourses. Without additional mitigation, otter have the potential to be affected by daytime disturbance for the duration of the construction of the crossing points.

Paragraph number	Important ecological feature	Description of impact	Impact characteristics	Description of likely effect
16.	Invasive non-native species (N/A)	Spreading invasive non-native species inadvertently through construction activities (including enabling works). Decommissioning impacts are likely to be similar to those at the construction stage.	This impact would be negative, permanent and reversible.	Construction and decommissioning activities would disturb and potentially spread invasive non-native species within unaffected areas within the Site and beyond. Without additional mitigation the Site has the potential to be adversely affected by invasive non-native species during construction (and enabling works).

Operation

10.6.2 **Table 10.15** identifies the likely effects of the Proposed Development (without additional mitigation) during the operational phase.

Table 10.15 Assessment of Likely Effects (Without Additional Mitigation) During the Operational Phase

Paragraph number	Important ecological feature	Description of impact	Impact characteristics	Likely effect
1.	Bats (roosting) (Local importance)	No impacts on roosting bats are anticipated during operation.	No impact.	Roosting bats will not be affected by the operation of the Proposed Development.
2a.	Bats (foraging and commuting) (local importance)	Operational lighting of the Proposed Development could cause disturbance to foraging and commuting bats.	This impact would be negative, permanent (for the life of the Proposed Development) and is reversible.	Lighting during operation could potentially affect flight paths of foraging and commuting bats. Without additional mitigation foraging and commuting bats have the potential to be

Paragraph number	Important ecological feature	Description of impact	Impact characteristics	Likely effect
				adversely affected by lighting during operation.
2b.		Unknown impact of solar farms displacing bats	This impact would be negative, permanent (for the life of the Proposed Development) and is reversible.	There is limited research and no common consensus on the impacts of solar farms on bats; however, studies in other countries and a more recent UK study by Tinsley et al. in 2023 (Tinsley E., 2023) suggests that there are several potential impacts following the installation of the Solar PV modules. This study found that overall, solar developments had an adverse effect on the abundance of some bat species, although the effects differed between bat species and also differed between hedgerow boundaries and open field, and there was no difference in bat species richness (i.e. the number of species) between solar and control sites. Whilst there have been some criticisms of the study including but not limited to how sites were matched for pairing, how 'mature' the solar farms were, and the height of the acoustic detectors, the findings did suggest there could be an adverse impact of solar farms on bats activity within those farms.

Paragraph number	Important ecological feature	Description of impact	Impact characteristics	Likely effect
				Solar panels can horizontally polarize light and reflect sound in a similar way to water. This may lead to bats mistaking panels for waterbodies when echolocating, encouraging them to attempt to drink from the panel surfaces, which can cause collisions and potential injuries (Grief F. and Siemers, 2017). However, studies have also found that bats tend to land on the panels to drink rather than colliding (i.e. non-fatal interaction) and that they also show signs of learnt behaviour by avoiding the panels following unsuccessful drinking attempts (Grief F. and Siemers, 2017); (Russo, 2012). A study by Szabadi et al. (2023) (Szabadi, 2023) in Hungary surveyed the activity of bats at solar farms and in the neighbouring habitats (forests, grasslands, arable fields, settlements and watersides) to evaluate the effects of solar farms on the occurrence and activity of bats and on the composition of bat communities. They found that bat species such as noctule and Pipistrellus sp.

Paragraph number	Important ecological feature	Description of impact	Impact characteristics	Likely effect
				detected at solar farms also frequently occur in arable land and settlements. This suggests that bats adapted to anthropogenic environments will exploit solar farms. Collision between bats and solar PV modules could be a potential adverse effect if tall or vertical panels interrupt flight paths (Toussaint, 2016). However, the solar PV modules are proposed to be up to 3 m high and tilted, which would provide an effective preventative measure (Toussaint, 2016); (Grief F. and Siemers, 2017) as most bats fly higher than 3 m. There needs to be maintenance of foraging and commuting habitat so even if bats are displaced they still have opportunities.
2c.		Noise from substation	This impact would be negative, permanent (for the life of the Proposed Development) and is reversible.	Research on the impacts of noise on bats, and the extent to which bats could be disturbed whilst roosting, foraging or commuting is in its infancy (Hanson C, 2017), although some data is now available for construction activities (Reason, 2023). Bats could be disturbed during the operational (including

Paragraph number	Important ecological feature	Description of impact	Impact characteristics	Likely effect
				maintenance) phase from high frequency 'electrical' noise, potentially emitted from the electricity inverters. Noise associated with the Proposed Development is assessed in ES Volume II, Chapter 9: Noise and Vibration. However, the higher frequencies of noise attenuate more quickly with distance and are also blocked more easily as they do not diffract or bend over any barriers, unlike low frequency noise. There is currently no known research/data on impacts of noise levels from invertors on ecology receptors, but high frequency noise does tend to attenuate over relatively short distances. No additional mitigation is proposed.
2.d		Collision risk with turbines	This impact would be negative, permanent (for the life of the Proposed Development) and is irreversible.	Rotating turbines present a risk to flying bats as a result of potential collision and/or barotrauma (sudden change in air pressure causing damage to a body) when flying in close proximity to turbines. There were five high collision risk species identified in the baseline report: common pipistrelle, soprano pipistrelle and

Paragraph number	Important ecological feature	Description of impact	Impact characteristics	Likely effect
				Nathusius' pipistrelle, Nyctalus species and Barbastelle.
3.	Invasive non-native species (N/A)	No direct impacts on invasive non-native species are anticipated during operation.	No impact	Invasive non-native species are unlikely to be affected by the operation of the Proposed Development. However, maintenance of turbines and solar panels could contribute to the spread of invasive non-native species.

10.7 Additional Mitigation Measures

10.7.1 **Table 10.16** sets out the additional mitigation measures required to mitigate the likely effects identified in **Section 10.6**.

Table 10.16 Additional Mitigation

Ref	Important ecological feature	Phase	Description of additional mitigation measure	Securing mechanism
1	Fungi – County importance	Construction Decommissioning	Areas of county importance for fungi, close to construction areas will be marked and fenced off by the Ecological Clerk of Works (ECoWs) to prevent accidental encroachment.	Net Benefit for Biodiversity Report (ES Volume III, Appendix 10.4 Net Biodiversity for Benefit Report) Construction Environmental Management Plan (CEMP) Decommissioning

Ref	Important ecological feature	Phase	Description of additional mitigation measure	Securing mechanism
				Environmental Management Plan (DEMP). <i>Secured by:</i> Planning condition. <i>Responsible party:</i> Applicant
2	Fungi – County importance	Construction	Enhancement of grassland areas within the west of the Site. Minimising grazing to the recommended stocking unit per hectare will be implemented. Where grass vegetation is well established, implement an annual cutting regime of random areas to diversify grassland – 5 –10%, with the arisings removed each year. Further information on grassland management can be found in ES Volume III, Appendix 10.4 Net Benefit for Biodiversity Report .	Habitat Management Plan (HMP) including Landscape Mitigation Plan (included within ES Volume III, Appendix 10.4 Net Biodiversity for Benefit Report). <i>Secured by:</i> Planning condition. <i>Responsible party:</i> Applicant
3	Fungi – Local importance	Construction	Where areas of local importance for fungi are present and due to be permanently lost to the Proposed Development, turf stripping will be completed to retain mycelium with the soil and keep the assemblage local to the Site. Minimising grazing to the recommended stocking unit per hectare will be implemented. Where grass vegetation is well established,	HMP including Landscape Mitigation Plan (included within ES Volume III, Appendix 10.4 Net Biodiversity for Benefit Report). <i>Secured by:</i> Planning condition. <i>Responsible party:</i> Applicant

Ref	Important ecological feature	Phase	Description of additional mitigation measure	Securing mechanism
			implement an annual cutting regime of random areas to diversify grassland – 5–10%, with the arisings removed each year. Further information on grassland management can be found in ES Volume III, Appendix 10.4 Net Benefit for Biodiversity Report .	
6	Fungi (County and Local importance)	Operation	ES Volume III, Appendix 10.4 Net Benefit for Biodiversity Report incorporates an outline management plan including a grazing regime which will be implemented to benefit grassland fungi species. This outline measure will be included in a HMP, to ensure longer-term management requirements are met.	HMP including Landscape Mitigation Plan (included within ES Volume III, Appendix 10.4 Net Biodiversity for Benefit Report). <i>Secured by:</i> Planning condition. <i>Responsible party:</i> Applicant
7	Nant Cwm-bach SINC – County importance; Gilfach Uchaf SINC – County importance; Fungi – County importance; Fungi – Local importance;	Construction Decommissioning	An ECoW will be provided at the construction stage to supervise site works. The ECoW give regular toolbox talks to make site personnel aware of the ecological sensitivities on-site. The ECoW would have the authority to stop any construction activity that is having or likely to have an unplanned adverse environmental effect or be in breach of relevant environmental protection legislation.	Ecology Management Plan, within CEMP/DEMP. <i>Secured by:</i> Planning condition. <i>Responsible party:</i> Applicant

Ref	Important ecological feature	Phase	Description of additional mitigation measure	Securing mechanism
	Woodland – Local importance; Hedgerows – Local importance; Hazel dormouse – Local importance; Roosting bats – Local importance.			
8	Cwm Risca Meadows SSSI – National importance; NPT Watercourses SINC – County importance; Cwm Nant Gwyn SINC – County importance; Nant Cwm-bach SINC – County importance; Gilfach Uchaf SINC – County importance;	Construction Decommissioning	Pollution prevention measures will be implemented to prevent spills contaminating important ecological features. See Section 5.7 of ES Volume II, Chapter 5: Land, Soil and Groundwater and Section 6.7 of ES Volume II, Chapter 6: Water for further details of pollution prevention measures. Swales will prevent an increase in surface run-off from the solar panels.	CEMP/DEMP. <i>Secured by:</i> Planning condition. <i>Responsible party:</i> Applicant

Ref	Important ecological feature	Phase	Description of additional mitigation measure	Securing mechanism
	Fungi – County importance; Fungi – Local importance; Otter - Local importance			
9	Bats (roosting) – Local importance; Bats (foraging and commuting) - Local importance; Otter - Local importance;	Construction Decommissioning	No nighttime working (unless otherwise agreed with the BCBC and NTPC). Working hours for construction will be from 07:00 to 19:00 Monday to Friday and 07:00 to 13:00 on Saturday. Sensitive lighting plan. Use of lighting only when necessary and directing lighting downward, away from boundaries and vegetation, would reduce impact to bats and other nocturnal species such as otter.	CEMP/DEMP. <i>Secured by:</i> Planning condition. <i>Responsible party:</i> Applicant
10	Invasive non-native species (N/A)	Construction (including enabling works) Operation Decommissioning	Invasive non-native species management plan will be implemented prior to the start of enabling works. The management plan will discuss methods to treat and manage invasive species for the duration of the works.	Invasive non-native species management plan, within CEMP/DEMP. <i>Secured by:</i> Planning condition. <i>Responsible party:</i> Applicant
11	Fungi – Local importance;	Construction (including enabling works)	Ecology management plan within the CEMP will be implemented for the duration of construction and decommissioning. The Ecology	Net Benefit for Biodiversity Report/CEMP/DEMP.

Ref	Important ecological feature	Phase	Description of additional mitigation measure	Securing mechanism
		Decommissioning	management plan will discuss methods of undertaking work to minimise disturbance and impacts to species.	<i>Secured by:</i> Planning condition. <i>Responsible party:</i> Applicant
13	Cwm Risca Meadows SSSI – National importance; NPT Watercourses SINC – County importance; Cwm Nant Gwyn SINC – County importance; Nant Cwm-bach SINC – County importance; Gilfach Uchaf SINC – County importance; Fungi – County and Local importance	Construction (including enabling works) Decommissioning	Dust suppression measures will be implemented throughout the Site.	CEMP/DEMP. <i>Secured by:</i> Planning condition. <i>Responsible party:</i> Applicant
14	Hazel dormouse – Local importance	Construction (including enabling works)	Vegetation clearance could be completed in two ways, dependant on timings of works. The first methodology is a two-stage clearance. Stage 1 would involve vegetation clearance to no	Dormouse licence or precautionary working method statement.

Ref	Important ecological feature	Phase	Description of additional mitigation measure	Securing mechanism
			shorter than 300 mm, any time between December and March (to avoid hibernating dormice and nesting birds) with stage 2 (removal of vegetation below 300 mm and below ground) taking place 15 April and 31 March (after dormouse hibernation and before the bird breeding season). The second methodology that could be undertaken is a single stage clearance with vegetation removal taking place between 15 September and 30 October or 15 April and 31 March. Clearance within these dates would avoid the dormouse hibernation and breeding seasons. Works within either methodology would require and ECoW and fingertip searches for nests prior to clearance. The works would either be completed under a dormouse licence or precautionary working method statement (dependant on dormouse survey results) and further detail relating to the vegetation clearance would be described in either of these documents.	<i>Secured by:</i> Planning condition. <i>Responsible party:</i> Applicant
15	Reptiles	Construction (including enabling works)	Where vegetation removal (and the habitat is assessed as suitable to support reptiles), is required, this would be subject to two-stage	Precautionary working method statement.

Ref	Important ecological feature	Phase	Description of additional mitigation measure	Securing mechanism
	Less than Local importance		strim and should be completed outside of the reptile hibernation season (April – September inclusive). Vegetation would be cut to no less than 300 mm and checked for reptiles (including any refugia within the area). Vegetation would then be cleared to ground level. Further detail relating to the clearance of vegetation in relation to reptiles would be provided within the precautionary working method statement.	<i>Secured by:</i> Planning condition. <i>Responsible party:</i> Applicant
16	Bats	Construction and Operation	A Bat Monitoring and Mitigation Strategy will be prepared to set out the required mitigation in the construction and operational phases, alongside a monitoring strategy to review the suitability of the mitigation proposed. This will outline the bat monitoring post construction, likely to be a repeat of bat activity surveys as well as carcass searching and the remedial measures that will be undertaken should monitoring indicate a significant impact on bats, which is likely to involve amendments to the habitat management prescriptions to further reduce the risk of collisions with bat species.	Bat Monitoring and Mitigation Strategy. <i>Secured by:</i> Planning condition. <i>Responsible party:</i> Applicant
17	Bats (roosting) – Local importance;	Operation	The lighting design would limit impact on important ecological features by directing lighting downward and away from the Proposed Development boundary and existing vegetation.	Lighting Design. <i>Secured by:</i> Planning condition.

Ref	Important ecological feature	Phase	Description of additional mitigation measure	Securing mechanism
	Bats (foraging and commuting) - Local importance; Otter - Local importance			<i>Responsible party:</i> Applicant

10.8 Assessment of Residual Effects (with Additional Mitigation)

Construction and Decommissioning

Cwm Risca Meadow SSSI

Pollution (Run Off/ Air Pollutants)

- 10.8.1 As detailed in **Table 10.14**, polluted surface water run-off and air pollutants could affect Cwm Risca Meadow SSSI during the construction and decommissioning phases. Standard pollution prevention measures would be implemented in accordance with the CEMP or DEMP to prevent any significant pollution incidents.
- 10.8.2 Overall, given the embedded and additional mitigation measures, **no residual effects** are anticipated.

NPT Watercourses SINC

Pollution (Run Off/ Air Pollutants)

- 10.8.3 As detailed in **Table 10.14**, polluted surface water run-off and air pollutants could affect NPT Watercourses during construction and decommissioning phases. Standard pollution prevention measures would be implemented in accordance with the CEMP or DEMP to prevent/minimise any significant pollution incidents.
- 10.8.4 Overall, given the embedded and additional mitigation measures, **no residual effects** are anticipated.

Cwm Nant Gwyn SINC

Pollution (Run Off/ Air Pollutants)

- 10.8.5 As detailed in **Table 10.14**, polluted surface water run-off and air pollutants could affect Cwm Nant Gwyn during construction and decommissioning phases. Standard pollution prevention measures would be implemented in accordance with the CEMP to prevent/minimise any significant pollution incidents.
- 10.8.6 Overall, given the embedded and additional mitigation measures, **no residual effects** are anticipated.

Nant Cwm-bach SINC

- 10.8.7 As detailed in **Table 10.14**, Nant Cwm-bach will be directly impacted by the creation of an access track. In addition to this, polluted surface water run-off and air pollutants could further affect both Nant Cwm-bach during construction and decommissioning phases. The residual effects of these impacts are discussed below.

Pollution (Run Off/ Air Pollutants)

- 10.8.8 Standard pollution prevention measures would be implemented in accordance with the CEMP or DEMP to prevent/minimise any significant pollution incidents.
- 10.8.9 Overall, given the embedded and additional mitigation measures, **no residual effects** in relation to pollution are anticipated.

Construction of Access Track

- 10.8.10 A small part of the SINC (0.03 ha, 3%) will be impacted as part of the works, leaving 97% of the SINC not impacted by the Proposed Development. The area of SINC due to be impacted is a line of trees connecting two woodlands.
- 10.8.11 Woodland planting (embedded mitigation) within the Site, but not adjacent to the SINC, would compensate for the loss of trees within Nant Cwm-bach SINC and provide an increase in the amount of woodland habitat within the county.
- 10.8.12 Nant Cwm-bach is of County importance. The loss of habitat within the SINC would likely result in negative and permanent impact. Therefore, there is likely to be a direct, permanent, long-term **adverse** residual effect on Nant Cwm-bach SINC, which is considered to be **significant** at the **Local** level.
- 10.8.13 Habitat monitoring would be required to ensure that compensatory woodland habitat is establishing as expected.

Gilfach Uchaf SINC

- 10.8.14 As detailed in **Table 10.14**, Gilfach Uchaf SINC will be directly impacted by the creation of an access track. In addition to this, pollution run off and air pollutants could further affect Gilfach Uchaf SINC during construction and decommissioning phases.

Pollution (Run Off/ Air Pollutants)

- 10.8.15 Standard pollution prevention measures would be implemented in accordance with the CEMP or DEMP to prevent/minimise any significant pollution incidents.
- 10.8.16 Overall, given the embedded and additional mitigation measures, **no residual effects** in relation to pollution are anticipated.

Construction of Access Track

- 10.8.17 The area of SINC due to be impacted is a small area of improved grassland (a habitat type not included within the SINC designation).
- 10.8.18 Gilfach Uchaf is of County importance. The loss of a habitat not listed as a qualifying feature of the SINC would result in **no residual effects** in relation to the construction of the access track.

NPT Ancient Semi-Natural Woodland SINC

- 10.8.19 As detailed in **Table 10.14**, polluted surface water run-off and air pollutants could affect NPT Ancient Semi-Natural Woodland SINC during construction and decommissioning phases. Standard pollution prevention measures would be implemented in accordance with the CEMP to prevent any significant pollution incidents.
- 10.8.20 Overall, given the embedded and additional mitigation measures, **no residual effects** in relation to pollution are anticipated.

Woodland

Construction of Access Track

- 10.8.21 As detailed in **Table 10.14**, woodland (no wet woodland) will be directly impacted by construction activities, with 0.03 ha of woodland associated with Nant Cwm-bach SINC, due to be impacted. No decommissioning impacts are anticipated.
- 10.8.22 The creation of 19.05 ha of woodland (embedded mitigation) within the Site will more than compensate for the loss of 0.08 ha of woodland and overall provide an increase in habitat throughout the Site.
- 10.8.23 The woodland is of Local importance. The loss of woodland habitat would likely result in a negative and permanent impact in the medium-term resulting in an effect which is considered to be **adverse**, temporary and **not significant** given the small area of habitat to be lost. Once the proposed planting has established and matured, the Proposed Development would result in a long-term **beneficial** and permanent residual effect which is considered to be **significant** at the **Local** level.
- 10.8.24 Habitat monitoring would be required to ensure that compensatory habitat is establishing as expected.

Hedgerows

Construction of Access Track

- 10.8.25 As detailed in **Table 10.14**, hedgerows will be directly impacted by construction activities, with 169 m of hedgerow due to be impacted. No decommissioning impacts are anticipated.
- 10.8.26 Creation of 3.26 km of hedgerow (embedded mitigation) within the Site will more than compensate for the loss of hedgerow and provide an increase in the abundance of this habitat and improve habitat connectivity throughout the Site.
- 10.8.27 Hedgerows are of Local importance. The loss of hedgerow habitat within the Site would likely result in a negative and permanent impact in the short-term resulting in an effect which is considered to be **adverse**, temporary and **not significant**. Once the proposed planting has established and matured, the Proposed Development would result in a **beneficial** and permanent residual effect which is considered to be **significant** at the **Local** level.

- 10.8.28 Habitat monitoring would be required to ensure that compensatory habitat is establishing as expected.

Fungi – County Level

- 10.8.29 As detailed in **Table 10.14**, polluted surface water run-off and construction activities such as plant tracking could affect areas of fungi with county level assemblages during construction and decommissioning phases.

Pollution (Run Off/ Air Pollutants)

- 10.8.30 Standard pollution prevention measures would be implemented in accordance with the CEMP to prevent/minimise any significant pollution incidents.
- 10.8.31 Overall, given the embedded and additional mitigation measures, **no residual effects** are anticipated.

Construction of Access Track

- 10.8.32 Erection of fencing around areas of county importance for fungi will prevent habitat loss, killing of fungi species and degradation of habitat. In addition, the enhancement of grassland habitats proposed in **Table 10.16** will provide the conditions for the fungi assemblage within the Site to increase.
- 10.8.33 Overall, given the embedded and additional mitigation measures, **no residual effects** are anticipated.

Fungi – Local Level

- 10.8.34 As detailed in **Table 10.14**, assemblages of fungi at the local level will be directly impacted by construction activities and could be indirectly impacted by pollution during construction and decommissioning phases.

Pollution (Run Off/ Air Pollutants)

- 10.8.35 Standard pollution prevention measures would be implemented in accordance with the CEMP to prevent/ minimise any significant pollution incidents.
- 10.8.36 Overall, given the embedded and additional mitigation measures, **no residual effects** are anticipated.

Construction of Access Track

- 10.8.37 Fungi will be translocated via turf stripping and grassland habitat within the Site will be enhanced to benefit grassland fungi as described in **Table 10.16**
Additional Mitigation . Fungi are of Local importance. The loss of fungi and associated grassland habitat within the Site would likely result in a negative and permanent impact. Following additional mitigation would like result in a **beneficial** and permanent residual effect which is considered to be **significant** at the **Local** level.

- 10.8.38 Monitoring of translocated turfs and grassland areas would be required to ensure that a good fungi species assemblage has remained within the translocated turfs and grassland enhancements are progressing as expected. This is detailed within **ES Volume III: Appendix 10.4: Net Benefit for Biodiversity Report**.

Great Crested Newt

- 10.8.39 As detailed in **Table 10.14**, no impacts on GCN are anticipated due to the distance of the nearest GCN population from the Site. Therefore, **no residual effects** are anticipated.

Bats (Roosting)

Construction of Access Track

- 10.8.40 As detailed in **Table 10.14**, roosting bats at the Local level will be directly impacted by construction activities. No decommissioning impacts are anticipated.
- 10.8.41 The installation of bat boxes within the Site will compensate for the loss of roosting habitat (trees) and overall provide an increase in roosting availability within the Site.
- 10.8.42 Roosting bats are of Local importance. The loss of one tree offering significant potential roosting habitats within the Site would likely result in a negative and permanent impact. Additional mitigation would likely result in a **beneficial** and permanent residual effect, which is considered to be **significant** at the **Local** level.

Bats (Foraging and Commuting)

Construction of Access Track

- 10.8.43 As detailed in **Table 10.14**, foraging and commuting bats at the Local level will be directly impacted by construction activities. No decommissioning impacts are anticipated.
- 10.8.44 The creation of 3.26 km of hedgerow and 19.05 ha of woodland areas (embedded mitigation) within the Site will compensate for the loss of hedgerow/ trees and overall provide an increase in habitat and connectivity throughout the Site.
- 10.8.45 Foraging and commuting bats are of Local importance. The loss of foraging and commuting habitats within the Site would likely result in a negative and permanent impact. Additional mitigation would likely result in a **beneficial** and permanent residual effect, which is considered to be **significant** at the **Local** level.

Hazel Dormouse

Construction of Access Track

- 10.8.46 As detailed in **Table 10.14**, dormice at the Local level will be directly impacted by construction activities. No decommissioning impacts are anticipated.

- 10.8.47 The creation of 3.26 km of hedgerow (embedded mitigation) within the Site will compensate for the loss of hedgerow. That in combination with the creation of 19.05 ha of woodland areas will provide an increase in habitat and connectivity throughout the Site.
- 10.8.48 Dormice are of Local importance. The loss of foraging and commuting habitats within the Site and fragmentation of habitats within the Site and the wider area would likely result in a negative and permanent impact. Additional mitigation would likely result in a **beneficial** and permanent residual effect, which is considered to be **significant** at the **Local** level.

Otter

Construction of Access Track

- 10.8.49 As detailed in **Table 10.14**, otter could be indirectly impacted by the construction of and decommissioning of watercourse crossings.
- 10.8.50 The design and construction of an open span bridge or bottomless arch culvert will not impede commuting or foraging otter. Noise from construction could disturb commuting/ foraging otter during the day.
- 10.8.51 Otter are of Local importance. Disturbance of otter may result in a negative and temporary residual impact, following embedded and additional mitigation. Therefore, there is likely to be an indirect, temporary, short-term **adverse** residual effect on otter, which is considered to be **not significant** at the **Local** level.

Invasive Non-native Species

- 10.8.52 As detailed in **Table 10.14**, invasive non-native species will be directly impacted by enabling works and construction activities and decommissioning phases.
- 10.8.53 An invasive non-native species management plan will be implemented to prevent the transportation of invasive species around and outside of the Site.
- 10.8.54 Invasive non-native species have no importance. The management and eradication of invasive non-native species would likely result in a beneficial and permanent residual effect, following additional mitigation. Therefore, there is likely to be a direct, permanent, long-term **beneficial** residual effect in relation to invasive non-native species, which is considered to be **significant** at the **Local** level.
- 10.8.55 Construction-phase monitoring (e.g. by the ECoW) would be required to ensure that biosecurity measures and the management plan are effective.

Operation

Bats (Foraging and Commuting)

- 10.8.56 As detailed in **Table 10.15**, foraging and commuting bats at the Local level will be directly impacted by operational activities.

Operational Lighting

- 10.8.57 No part of the Proposed Development will be continuously lit during the operational phase, except the turbines, as explained below. Manually operated and motion detection directional lighting would be utilised for operational and security purposes. This will minimise the disturbance to foraging and commuting bats. Three proposed turbines will require red aviation warning lights. A study by (Spoelstra, 2017) concluded that foraging bats are not attracted to red lighting. The reason for this is that white and green spectrum lights attract foraging insects whilst red lights do not. Therefore, it is unlikely that red light will attract bat activity to the turbines.
- 10.8.58 Foraging and commuting bats are of Local importance. Operational lighting impacts of the Proposed Development on foraging/ commuting bats is considered to be a negative and permanent impact, but the integrity of the local populations are not expected to be affected. The operational phase lighting is considered to have an **adverse** residual effect, but one that is **not significant** at the **Local** level.

Wind Turbine Effects

- 10.8.59 Published guidance on assessing the impacts of wind turbines on bats recommends the implementation of an agreed post-development monitoring programme as a best practice mitigation measure (Drewitt, 2006). This will aim to confirm the accuracy of the collision risk assessment to bats. Monitoring will involve monthly searches of carcasses within monitoring years (January-December), ensuring that bat carcasses are discovered during periods of time when bats are active (between March-October). Monitoring will take place within the first three years of operation and subsequently in years 5, 7, 10, 15, 20, 25, 30, 35, 40, 45 and 50. Any carcasses will be photographed and logged in a fatality search report, which will be submitted to relevant stakeholders (i.e., to NRW) and the local planning authorities for consultation to inform any remedial actions that may be necessary. It is possible a curtailment strategy would be required if it is reported that bat mortality is deemed at an unacceptable level due to the wind turbine development. A comprehensive on-site fatality monitoring programme would follow best practice guidance (NatureScot, 2021) and examples and include:
- Carcass removal trials to establish levels of predator removal of possible fatalities. This should be done following recommended best practice and with due cognisance of published effects such as predator swamping, whereby excessive placement of carcasses increases predator presence and consequently skews results. At the time of publication predation trials set using trail cameras following guidance set out in 'Effects of Wind Turbine Curtailment on Bird and Bat Fatalities' (Smallwood, 2010) provides the most accurate results.
 - Turbine searches for fatalities should be undertaken with the use of conservation dogs following best practice in terms of search area (minimum radius hub height) and at intervals selected to effectively sample fatality rates

as determined by carcass removal trials in (a) above. At the time of publication, the typical search area surrounding the turbine bases follow 'Impacts Of Wind Energy Developments On Birds And Bats: Looking Into The Problem' (Edkins, 2014), who recommends the "*search width should be equal to the maximum rotor tip height*", e.g. proposed turbines for the Proposed Development have a max tip height of 200 m thus the spread of the searched area, as a rectangle, square or circle, should be 100 m in either direction from the turbine base.

- Search intervals would follow NatureScot guidelines (NatureScot, 2021).
- Recorded fatalities should be calibrated against known predator removal rates to provide an estimate of overall fatality rates. The analysis tool Evidence of Absence V2 (Dalthorp, 2017) is recommended as a minimum, or other equivalent guidance as dictated by up-to date standards and practices.
- Monitoring reports to be submitted to BCBC, NPTC and NRW following each year of monitoring (i.e., during each of the first three years of operation and subsequently in years 5, 7, 10, 15, 20, 25, 30, 35, 40, 45 and 50).

Solar Farm Effects

- 10.8.60 As discussed in **Table 10.15** above, although there is limited evidence on which to base an informed assessment (e.g. whether short-term or long-term effects), it is noted using the precautionary principle (Chartered Institute of Ecology and Environmental Management, 2018) that changes to the habitat due to the placing of solar PV modules could potentially adversely affect some bat species using both hedgerows and open fields across the Site during the operational (including maintenance) phase. The proposed habitat creation and enhancement works will provide continued foraging habitat for the bat population despite any potential displacement caused by the solar areas.
- 10.8.61 Foraging and commuting bats are of Local importance. Operational impacts of the Proposed Development on foraging/commuting bats due to solar farm effects are considered to be a negative and permanent impact. The operation of the solar farm is considered to have an **adverse** residual effect that is **significant** at the **Local** level.
- 10.8.62 Bat activity monitoring will be required as part of a Bat Monitoring and Mitigation Strategy to assess changes in bat activity patterns and the efficacy of mitigation. Remedial measures may be required depending on the outcomes of the monitoring.

Noise from Substation

- 10.8.63 As discussed in **Table 10.15** above, although there is limited evidence on which to base an informed assessment (e.g. whether short-term or long-term effects), it is noted using the precautionary principle (as per CIEEM Guidelines (Chartered Institute of Ecology and Environmental Management, 2018)) that disturbance to foraging and commuting bats from high frequency 'electrical' noise and electricity

inverters could potentially adversely affect some bat species foraging and commuting across the Site during the operational (including maintenance) phase.

- 10.8.64 Foraging and commuting bats are of Local importance. Operational impacts of the Proposed Development on foraging/commuting bats due to high frequency noise from the substation are considered to be a negative and permanent impact. But given that high frequency noise attenuates more rapidly over distance than low frequency noise, and the Substation is not directly adjacent to habitat likely to be used by roosting bats, there will be large areas of foraging habitat likely not subject to high frequency noise. Therefore, the operational noise is considered to have an **adverse** residual effect, but one that is **not significant** at the **Local** level.
- 10.8.65 Bat activity monitoring will be required to assess changes in bat activity patterns and the efficacy of mitigation

Collision Risk

- 10.8.66 The recommended buffer distance will be maintained between turbines (blade tips) and the woodland edge: triangulated 50 m buffer from the blade tip to the vegetation. However, given the somewhat limited understanding of bat interactions with turbines and the level of activity across the Site, there is still a risk that foraging and commuting bats will be impacted by the development during its operational phase. Feathering will be applied to all turbine blades between April – October to reduce rotation speeds to below 2rpm while idling.
- 10.8.67 During the operational phase, rotating turbines present a risk to flying bats as a result of potential collision and/or barotrauma when flying in close proximity to turbines. Research (Mathews, 2016)) found that most bat fatalities at UK wind farms were common pipistrelle, soprano pipistrelle and noctule. According to this research, there was a significant association between the number of pipistrelle fatalities and the activity category of the site. For instance, sites categorised as low activity had significantly fewer pipistrelle fatalities compared to medium and high category sites but there was no difference between sites categorised as medium and high activity.
- 10.8.68 Guidance (NatureScot, 2021) states that common and soprano pipistrelle are at high risk in terms of collision, although they are of medium risk in terms of any threat to their Welsh national population. Barbastelle is considered to be medium collision risk and high vulnerability. Noctule and Nathusius's' pipistrelle is considered to be high risk both in terms of collision risk and population vulnerability.
- 10.8.69 Bat activity levels in the area of the Proposed Development have been classified according to guidance and are presented in **ES Volume III, Appendix 10.1: Ecological Baseline Report**).

Common and Soprano Pipistrelle

- 10.8.70 Pipistrelles are the most abundant and most widely distributed bat species in the UK and have undergone steady population increases since the turn of the century. Common and soprano pipistrelles are very similar in their ecology and are dealt with together in this assessment. Nathusius' pipistrelle is assessed separately. Common and soprano pipistrelle are most often recorded roosting in buildings for both their summer and winter roosts, although they can also be recorded using tree holes and crevices. Common and soprano pipistrelles are considered to be important ecological features of local value.
- 10.8.71 Common pipistrelle was the most frequently recorded bat species during the static detector surveys. Common pipistrelle was recorded at all static detector locations over the course of the three deployments. Common pipistrelle activity was reasonably spread across most bat detector locations, with the highest number of bat passes recorded at 'H', 'B', 'A' and 'G' and the highest median bat activity also recorded at these locations. The lowest common pipistrelle activity was recorded at locations 'E', 'D', 'C' and 'F' (see **Figure 5 Bat static locations and Ground Level Tree Assessment (GLTA)** results in **ES Volume III, Appendix 10.1: Ecological Baseline Report**).
- 10.8.72 Soprano pipistrelle was recorded in much lower numbers than common pipistrelle but was recorded from all static detector locations. The detector at 'H' had the highest number of soprano pipistrelle passes overall.
- 10.8.73 When looking at relative abundance, common and soprano pipistrelle activity within the proposed turbine locations have been classed as medium risk during all seasons, using the median level of activity. However, when maximum activity is used in the assessment, both species are classed as high risk during all seasons. The recommended buffer distance will be maintained between turbines (blade tips) and the forest edge; this distance being triangulated 50 m from the blade tip to the vegetation. This is intended to minimise the incidence of bats coming into contact with turbines, however, given the somewhat limited understanding of bat interactions with turbines and the level of activity of common and soprano pipistrelles across the Site, there is still a risk that these species will be impacted by the Proposed Development during its operational phase. Both pipistrelle species are assessed in guidance as having an overall high collision risk with wind turbines, but due to both species being common and widespread across Wales they have a medium population vulnerability to wind turbines.
- 10.8.74 Operational impacts of the Proposed Development on common and soprano pipistrelle due to collisions are considered to be **adverse** but the integrity of the local populations are not expected to be affected and, thus, operational effects are considered to be **significant** at a **Local** level only.

Nathusius' pipistrelle

- 10.8.75 Nathusius' pipistrelle is relatively rare in the UK when compared to the other pipistrelle species. In recent years the number of records has increased but its status in the UK is still uncertain. Nathusius' pipistrelle differs from the other two

species in that the small UK summering population is supplemented in the autumn by migrants from eastern Europe that winter in the UK. Like the other pipistrelle species, Nathusius' pipistrelle predominantly roost in buildings. Nathusius' pipistrelle is a receptor of regional value.

- 10.8.76 Nathusius' pipistrelle was recorded at most static detector locations but at a very low level. Most activity was recorded in the summer deployment. The low level of activity in the autumn deployment suggests Nathusius' pipistrelle is resident in the Site area and does not have the status here of a wintering migrant. The location with the greatest median activity was 'H'.
- 10.8.77 Nathusius' pipistrelle's relative abundance determined that the activity within the proposed turbine locations is classed as medium risk for all seasons, when using median activity levels. When using maximum activity levels, they were considered to be at high risk in all seasons. However, the low number of Nathusius' pipistrelle passes recorded during the deployments suggests that these relative abundance classifications may be due to under-recording nationally.
- 10.8.78 The assessment that was carried out to determine risk by detector location for each bat species found that the only turbine locations that produced a high risk were 'D', 'E', 'F', 'H' and 'G', (using both median and maximum bat activity).
- 10.8.79 The recommended buffer distance will be maintained between all turbines (blade tips) and the forest edge; triangulated 50 m from blade tip to vegetation. This is intended to minimise the incidence of bats coming into contact with turbines, however, there is still a risk that this species will be impacted by the Proposed Development during its operational phase. Nathusius' pipistrelle is assessed in guidance as having an overall high collision risk with wind turbines and a high population vulnerability due to it being considered as a rare species in Wales.
- 10.8.80 Operational impacts of the proposed development on Nathusius' pipistrelle due to collision are considered to be of **adverse** but the integrity of the local population is not expected to be affected and, thus, operational effects are considered to be **significant** at a **Local** level.

Noctule

- 10.8.81 Noctules are widespread in Wales but are considered to be uncommon, although they have shown an increase in their UK population since the turn of the 21st century. Noctules primarily roost in trees and rarely gather in buildings. This species is considered to be an important ecological feature with regional value.
- 10.8.82 Noctules were infrequently recorded during the static detector surveys. They were mostly recorded in the summer and autumn deployments but in this season the total number of passes across all detectors was only 208 (2.3% of all bat passes). Static location 'E' recorded the largest number of passes overall.
- 10.8.83 The relative abundance data for noctules determined that this species' median activity could be classed as medium risk in all seasons. Using maximum activity levels, risk was high in all seasons. Noctules are assessed in guidance as having a high collision risk with wind turbines and a high population vulnerability.

- 10.8.84 The recommended buffer distance will be maintained between all turbines (blade tips) and the forest edge; triangulated 50 m from the blade tip to the vegetation. This is intended to minimise the incidence of bats coming into contact with turbines but there is still a potential risk that this species will be impacted by the Proposed Development during its operational phase. Operational impacts caused by the Proposed Development as a result of collisions are considered to be of adverse for noctules, but the integrity of the local population is not expected to be affected and, thus, the effects will be **significant** at the **Local** level.

Barbastelle

- 10.8.85 Barbastelle is relatively rare in the UK. There is considerable uncertainty over the size of the population and how numbers may have changed over time: there are few records prior to 1993 but the number of records has increased considerably in recent years due to the introduction and more widespread use of sensitive acoustic survey equipment capable of detecting their low-amplitude echolocation signals. There is some evidence of a contraction in range. Barbastelle primarily roost in trees and are closely associated with broadleaved woodland containing large numbers of veteran and dead trees. This species is considered to be a receptor of regional value.
- 10.8.86 Barbastelle was only recorded 13 times during the static detector surveys. They were mostly recorded in the summer and autumn deployments. Static location 'B' recorded the largest number of passes overall with Barbastelle only being recorded at static locations 'B', 'G' and 'H'.
- 10.8.87 The relative abundance data for noctules determined that this species' median activity could be classed as high risk in all seasons. Using maximum activity levels, risk was also high in all seasons. Barbastelle are assessed in guidance as having a medium collision risk with wind turbines and a high population vulnerability.
- 10.8.88 The recommended buffer distance will be maintained between all turbines (blade tips) and the forest edge; triangulated 50 m from the blade tip to the vegetation. This is intended to minimise the incidence of bats coming into contact with turbines but there is still a potential risk that this species will be impacted by the Proposed Development during its operational phase. Operational impacts caused by the Proposed Development as a result of collisions are considered to be of **adverse** for barbastelles, but the integrity of the local population is not expected to be affected and, thus, the effects will be **significant** at the **Local** level.

Margam Park SINC

- 10.8.89 Margam Park SINC is located 3 km from the nearest proposed turbine. The site is known to support 14 bat species: common, soprano and Nathusius' pipistrelles, brown long-eared, Brandt's bat, Daubenton's bat, Natterer's bat, whiskered bat, barbastelle, Leisler's bat, noctule, serotine, lesser horseshoe and greater horseshoe. All of these species were also recorded during the baseline surveys.

- 10.8.90 Margam Park is low lying and contains a mix of suitable bat foraging habitats, including patches of deciduous woodland, parkland and water bodies. The proposed turbine locations are less favourable habitat, containing mostly grazing pasture. It is therefore to be expected that the proposed turbine locations will be a less favoured part of the foraging range of those bats that roost within the SINC. In order to determine any potential impacts upon the SINC, the level of connectivity with the turbine development area requires assessment.
- 10.8.91 The walked transects were included in the baseline survey programme to help determine any connectivity between the Proposed Development and Margam Park. The data shows that while bats do commute from the South towards the Site, those species follow the watercourses and woodland continuing North. Very few of these continue into the turbine development areas to forage.
- 10.8.92 Based on the above information, it is considered that the proposed development will have an adverse impact that will not affect the integrity of bat populations within Margam Park. The effect on the SINC will be **significant** at a **Local** level.
- 10.8.93 A number of embedded mitigation measures have been described that will be implemented to ensure the following of good practice guidance and to ensure compliance with legislation. An addition measure, to be implemented during the operational phase of the Proposed Development will be included in the HMP for the benefit of bats. This will state that areas of open-ground around turbines will be managed to ensure that they remain free of tree and tall shrub growth in order to maintain the triangulated 50 m buffer between the potential bat features and the blade tips.
- 10.8.94 The operation of the wind turbines is considered to have an **adverse** residual effect that is **significant** at the **Local** level.
- 10.8.95 Bat fatality monitoring will be required to confirm the accuracy of the collision risk assessment.

In-combination Effects

- 10.8.96 Foraging and commuting bats are of Local importance. Operational impacts of the Proposed Development on foraging/commuting bats due to turbine collisions, solar farm effects, noise and lighting are considered to be a negative and permanent impact. The implementation of additional mitigation does not off-set the risk of all negative impacts on foraging/commuting bats. Therefore, the **adverse** operational effects combined are considered to be **significant** at the **Local** level.

Invasive Non-Native Species

- 10.8.97 As detailed in **Table 10.15**, it is possible that invasive non-native species will be spread during maintenance activities during the operational phase.
- 10.8.98 An invasive non-native species management plan will be implemented to prevent the transportation of invasive species around and outside of the Site.
- 10.8.99 Invasive non-native species have no importance. The management and eradication of invasive non-native species would likely result in a beneficial and

permanent impact, following additional mitigation. Therefore, there is likely to be a direct, permanent, long-term **beneficial** residual effect in relation to invasive non-native species, which is considered to be **significant** at the **Local** level.

- 10.8.100 Operation phase monitoring would be required to ensure that biosecurity measures and the management plan are effective.

10.9 Opportunities for Environmental Enhancement

Grassland Enhancement

- 10.9.1 An area of grassland (13.8 ha) within the north of the Site (see **ES Volume IV, Figure 10.6: Impacts and mitigation**) will be enhanced to improve existing habitat and carrying capacity of marsh fritillary. Grazing will be minimised to the recommended stocking unit per hectare. Where grass vegetation is well established, an annual cutting regime of random areas to diversify grassland – 5-10%, with the arisings removed each year. In addition, if natural regeneration of Devil's-bit scabious from the seedbank is unsuccessful an appropriate seed mix will be incorporated into the management. Further information on grassland management can be found in **ES Volume III, Appendix 10.4: Net Benefit for Biodiversity Report** and will be fully detailed within a HMP.

Net Benefit for Biodiversity

- 10.9.2 Biodiversity net benefit for a project is mandatory, under Section 6 duty of the Environment (Wales) Act 2016.
- 10.9.3 As described below (under *Ecosystem Resilience*) a number of measures to benefit biodiversity are proposed in the Net Benefit for Biodiversity Report (which includes an OHMP) (**ES Volume III, Appendix 10.4: Net Benefit for Biodiversity Report**). In this section, evidence is provided as to how the Proposed Development will maintain and enhance biodiversity, through the implementation of the HMP.
- 10.9.4 The Net Benefit for Biodiversity Report is subject to iteration as it will be formalised as part of planning consent (following agreement from the Applicant, BCBC and NPTC) but it provides a clear statement of the aims and ambitions of the measures to be implemented.
- 10.9.5 The Net Benefit for Biodiversity Report (**ES Volume III: Appendix 10.4: Net Benefit for Biodiversity Report**) submitted alongside the planning application includes measures to enhance the southern fields area to provide a wetland mosaic of habitats and with a sympathetic management plan including a grazing regime. This will be agreed with BCBC and NPTC prior to construction, to ensure longer-term management requirements are met.
- 10.9.6 The Proposed Development as a whole could deliver approximately 94.43 ha of new and enhanced habitats, including, grassland and woodland. These habitats, once at target condition, will be considerably more diverse and higher quality than the baseline habitats within the Site.

Ecosystem Resilience

- 10.9.7 The NRW Ecosystem Resilience Field Guide (Natural Resources Wales, 2025) together with the NPTC Biodiversity Duty Plan 2020-2023 (Neath Port Talbot Council, 2021) highlight the importance of ecosystem resilience and actions that can be undertaken to meet this aim, as required by the Environment (Wales) Act 2016. Resilient ecosystems are those with good levels of diversity, which are of sufficient extent, are in a good condition and have connectivity; referred to as the 'DECCA' framework of measurable attributes. Actions to achieve resilient ecosystems include safeguarding and improving existing ecosystems, restoring degraded habitats and creating new areas of habitat. Measures may also include tackling current pressures, such as removing invasive non-native species and improving air quality. Priority actions to build ecosystem resilience in the uplands include increasing tree cover and managing run-off pathways.
- 10.9.8 The Net Benefit for Biodiversity Report for the Proposed Development (**ES Volume III, Appendix 10.4: Net Benefit for Biodiversity Report**), includes a number of prescriptions to promote ecosystem resilience within the Site. Diversity will be enhanced by the creation of new habitats, for example the creation of woodland, enhancement of grassland to create Marsh Fritillary habitat and grassland enhancement to benefit birds and grassland fungi. The removal of invasive species (such as Himalayan Balsam and Japanese Knotweed) will improve the natural condition of habitats within the Site.
- 10.9.9 Therefore, the implementation of the Net Benefit for Biodiversity Report will enhance biodiversity and create new opportunities to improve ecosystem resilience within the Site.

Bat boxes

- 10.9.10 A number of bat boxes would be installed in suitable locations within hedges, on trees or in woodland to improve roosting opportunities. Locations of the bat boxes will be provided within the Net Benefit for Biodiversity Report and licence application if required and is expected to form a planning condition.

10.10 Difficulties and Uncertainties

- 10.10.1 No dormouse surveys have been completed within the Site to date. Dormice are known to be within the wider landscape and the assessment within the report has taken this into consideration and taken a precautionary approach (assumed dormouse presence). Therefore, the lack of survey data has not affected the assessment of dormice within this chapter.
- 10.10.2 All waterbodies within the Site and ten waterbodies within 250 m of the Site were surveyed during the HSI and eDNA surveys. Ten waterbodies within 250 m of the Site were not able to be accessed. The majority of waterbodies within 250 m were located along the southern boundary of the Site, in close proximity to GCN records obtained from SEWBRc. All the waterbodies within the Site returned negative eDNA results and no GCN were recorded in the trapping surveys. Only one

waterbody within 250 m returned a positive eDNA results and it was in close proximity to the known GCN records obtained from SEWBRcC. It is therefore considered that there is sufficient data from the surveys completed to undertake a robust assessment within this chapter in relation to GCN despite the ponds within 250 m that we were not able to access.

- 10.10.3 Additional limitations to the baseline surveys are presented in **ES Volume III, Appendix 10.1: Ecological Baseline Report.**

10.11 Inter-Project Cumulative Effects

Screening Other Developments Within the Zone of Influence

- 10.11.1 The inter-project cumulative effects assessment has been undertaken in accordance with Nationally Significant Infrastructure Projects: Advice on Cumulative Effects Assessment (Planning Inspectorate, 2024), as detailed in **ES Volume II, Chapter 4: Approach to the EIA. Table 10.17** sets out the other developments located within 10 km of the Site. This ZOI has been determined as appropriate for this inter-project cumulative assessment as agreed through the Scoping Direction.
- 10.11.2 **Table 10.17** also sets out the findings of a screening assessment undertaken to identify those other developments which have the potential to result in significant effects with the Proposed Development.

Table 10.17 Inter-project Cumulative Effects: Screening

Other Development	Development Description	Potential for Significant Cumulative Effects?
P/20/119/FUL (P/23/185/DOC) WEPA Vesta (Paper Machine)	Expansion of current operation including an extension for a new paper machine and stock preparation area, new converting and warehouse facilities and ancillary buildings. Located adjacent and to the northeast of the Site.	No - The development comprises the loss of an occasional day roost (common pipistrelle, soprano pipistrelle and an unidentified Myotis species) and the loss of a likely old brown long-eared maternity roost. Both roosts were within the same building. Mitigation for the loss of the building was put into place prior to the loss of the roost and after implementation of mitigation and compensatory measures, the magnitude of impact was assessed as being minor with a short-term reversible impacts on the bat population of the site and surrounding area. In addition to the above, a large portion of woodland was lost under the

Other Development	Development Description	Potential for Significant Cumulative Effects?
		development, leading to a reduction of moderate quality foraging habitat. Habitat loss was minimised and connectivity between retained woodland and new woodland planting offsite was recommended. Indirect impacts associated to lighting was considered to be minimal as the site prior to construction supported a high level of artificial lighting. After the implementation of mitigation measures, the magnitude of impact was considered to be minor as there would only be a short term and reversible impact on the foraging and commuting potential of the site and its surroundings. The Proposed Development is retaining all woodland areas and minimising the amount of hedgerow to be removed. There is a significant amount of woodland and hedgerows within the surrounding landscape, therefore the cumulative impact on foraging and commuting bats is not considered to be significant.
DNS CAS-03613-S7Y6S4 Prosiect Egni Glan Llynfi (Modular Nuclear)	The project will include 4 PWR-20 Modular Nuclear Reactor units, which will provide clean, carbon-free baseload electricity and heat to local industrial users. There will also be Grid, as well as private electricity & steam connections. There will be no air or water emissions from the plant.	No - Cumulative effects can be ruled out with high certainty based on the size and nature of the development.
CAS-02505-N3T6M4	66 kV electricity network infrastructure comprising overhead lines and	No - A draft EIA report available. Works are anticipated to commence in January

Other Development	Development Description	Potential for Significant Cumulative Effects?
Foel Trawsnant Windfarm Connection	underground cables which will start at Foel Trawsnant Wind Farm (grid ref: 283941, 194161) in the north, heading south through the western edge of Maesteg (grid ref: 284482, 191458) to a connection point with the existing overhead line approximately 2 km south west of the settlement of Llangynwyd (grid ref: 284175, 187428). Southern end of the route is c.500 m northwest of the Site and situated within Gilfach Uchaf SINC.	2028 and will take nine months to complete. Construction for Mynydd Ty-talwyn is due to commence in 2029; therefore, there will be no overlap in construction of the two projects. The project will result in a very small amount of permanent land take which, given the amount of suitable habitat within the wider landscape, no significant cumulative effect on bats is anticipated. No cumulative effects are anticipated on other important ecological features.
P/24/753/SOR WEPA Vesta (Paper Machine)	New plant producing tissue/paper machine at Bridgend and decommissioning and dismantling of old machine. Located adjacent and to the northeast of the Site and Cwm Nant Gwyn SINC.	No - Scoping report available and states subject to planning permission construction works are due to commence in 2026 which is unlikely to overlap with the proposed works at Mynydd Ty-talwyn (construction due to start in 2029). There is a requirement for a small area of woodland removal, however, given the amount of suitable habitat within the wider landscape and lack of woodland removal/small amount of hedgerow removal within the Proposed Development, no significant cumulative effect on bats is anticipated. No cumulative effects are anticipated on other important ecological features.
CAS-01977-L5K6R7 Eirlys Solar Farm	Solar development which comprises photovoltaic panels, a substation, underground cabling, battery energy storage system and other associated	No - Scoping report available. No construction start and completion dates provided, and therefore it is not possible to determine if construction

Other Development	Development Description	Potential for Significant Cumulative Effects?
	infrastructure. No significant groundworks are proposed. The lifespan of this scheme is 40 years.	and operational phases are concurrent with the Mynydd Ty-talwyn project. It is currently unknown how much bat foraging habitat will be impacted as part of the works. However, solar farms usually implement a buffer from hedgerows and woodlands, leaving bat foraging routes free from direct impact. In addition to this, given the amount of suitable habitat within the wider landscape and lack of woodland removal/small amount of hedgerow removal within the Proposed Development, no cumulative effect on bats is anticipated. No cumulative effects are anticipated on other important ecological features.
DNS/3264571 Y Bryn Wind Farm	A wind farm comprising up to 18 wind turbines and other associated infrastructure such as a substation, underground cables and access tracks. The lifespan of this scheme is up to 50 years.	No – Environmental Statement available. There are six species of bats ranging from Local to Regional value listed within the ES. Habitat within the Site is considered to be of moderate suitability for bats. The ES for Y Bryn considered there to be no significant effect on bats for the project (using the EIA assessment guidelines rather than the CIEEM guidelines as used in this report). Given that Mynydd Ty-talwyn will not be impacting areas of woodland (long-term) and only removing small areas of hedgerows, no cumulative significant effects on bats are anticipated. No cumulative effects are anticipated on other important ecological features.
P/23/218/FUL HyBont Green Hydrogen	Development of a green hydrogen production facility with electrolyzers, hydrogen storage, hydrogen refuelling	No – Ecological Impact Assessment available.

Other Development	Development Description	Potential for Significant Cumulative Effects?
	station, admin building, substation and back-up generator; with access, circulation, parking, lighting, 8-metre-high wall, security fencing, hard and soft landscaping, and drainage infrastructure.	There is a requirement for a woodland removal. However, given the amount of suitable habitat within the wider landscape and lack of woodland removal/small amount of hedgerow removal within the Site of the Proposed Development, no cumulative effects on bats are anticipated. No cumulative effects are anticipated on other important ecological features.
DNS CAS-04421-B8S4Q5 Y Bryn Wind Farm Grid Connection	An up to 132 kV (kilovolt) electricity connection comprising underground cables and overhead lines between Y Bryn Wind Farm and the National Grid Substation at Margam.	No - Cumulative effects can be ruled out with high certainty based on the nature and size of development and distance from the Mynydd Ty-talwyn Site.
P/22/225/FUL Great Western Avenue, Coity Road, Battery Energy Storage	Installation of a battery energy storage facility, substation, underground cabling and ancillary infrastructure & equipment to include security fence, CCWTV & gates.	No - Cumulative effects can be ruled out with high certainty based on the nature and size of development and distance from the Mynydd Ty-talwyn Site.
DNS/3279521 Ty'n Y Waun Solar	Solar photovoltaic electricity generating station 'solar farm' with an installed generation capacity of circa 40 MW and associated ancillary development including a 132kV substation.	No - Environmental Statement available and states construction works would take 12-18 months. It provides an indicative construction period starting in Q2 2024; however, works are yet to commence. Given the amount of natural habitat within the wider landscape, no cumulative effects are anticipated on the important ecological features.
P2021/1255 Land West of Junction 38 M4	Full planning application of the development of a metal processing facility totalling 28,500 sq.m of floorspace comprising a powder processing plant (17,377sq.m), warehouse and	No - Environmental statement available and states construction works would take 16 months. It provided an indicative construction period starting in August 2022; however, works are yet to commence.

Other Development	Development Description	Potential for Significant Cumulative Effects?
	store (5,428 sq.m) office building (1,442 sq.m), amenity building (776 sq.m), laboratory (200 sq.m), services building (470 sq.m), substation (107 sq.m), phase 2 (2,700 sq.m), CCTV, storage tanks and plant, parking, servicing and roads and associated works. (Additional and Revised information including details of diversion of water main, Boundary treatment and Acoustic Fencing details, external lighting scheme, revised Noise Impact Assessment, Revised Health Impact Assessment, Revised Health Impact Assessment and Air Quality Clarification Information).	The sites are separated by the M4 which is considered likely to restrict movement of bats across the landscape. In addition, given the amount of natural habitat within the wider landscape, no cumulative effects are anticipated on the important ecological features.
P2022/0372 Land At Kenfig Industrial Estate Margam	Wind Farm - one turbine, 100 m in height	No - The sites are separated by the M4 which is considered likely to restrict movement of bats across the landscape. In addition, given the amount of natural habitat within the wider landscape, no cumulative effects are anticipated on the important ecological features.
P2022/1048 Cefn Gwrgan Road	Wind Farm - one turbine, 21 m in height	No – Due to the scheme scale being only a single turbine and considering the distance from the application site, significant cumulative effects are not likely.
P2018/0153 P2022/0517 Foel Trawsant	Wind Farm - 11 turbines, 145 m in height Request for Scoping Opinion	No – Environmental Statement Addendum and scoping report available.

Other Development	Development Description	Potential for Significant Cumulative Effects?
	under Regulation 14 of the Town & Country Planning (Environmental Impact Assessment) (Wales) Regulations 2017 in respect of an amendment to current planning application P2014/0825 reducing the number of turbines from 13 to 11 and increasing the height of each turbine from 120 m to 145 m high together with ancillary development including substation and control building, on-site underground electrical cables, stone site access tracks, temporary construction compounds, turbine foundations and temporary crane pads.	Bats have been assessed as Low value within the Site. There is the potential for cumulative impacts with regards collision risk, but given the site has been assessed as low value for bats and the amount of suitable roosting and foraging habitat within the wider landscape and lack of woodland removal/small amount of hedgerow removal within the Mynydd Ty-talwyn Site, no significant cumulative effects on bat populations are anticipated. No significant cumulative effects are anticipated on other important ecological features.
DNS CAS-03678-M4Y0G7 – Upper Ogmore Wind Connection	Grid Connection (overhead line and underground cabling)	No - Cumulative effects can be ruled out with high certainty based on nature and size of the development and distance from the Mynydd Ty-talwyn Site (~6 km).
CAS-01773-Z5L1D0 Mynydd y Gaer Wind Farm	Wind Farm - 11 turbines	No - Environmental Statement available. There are six species of bats reported as having local value listed within the ES. In the context of the wider local area and region of the Mynydd y Gaer development footprint, there is relatively low suitability for foraging bats. After additional mitigation, Mynydd y Gaer considered there to be no significant effect on bats for the project.

Other Development	Development Description	Potential for Significant Cumulative Effects?
		No significant cumulative effects are anticipated on other important ecological features.
DNS Ref: DNS/3213662 Upper Ogmore	Wind Farm - seven turbines, 130 height.	No – Planning Inspectorate report available where it was reported that the ' <i>overall risk to all species of bat recorded at Upper Ogmore has been assessed as being low</i> '. Given the amount of natural habitat within the wider landscape, no cumulative effects are anticipated on the important ecological features.
DNS/3213704 Felindre Road - STOR	Installation of a stand-by energy generating station that when constructed will have an installed generating capacity of approximately 40 MW. Located c.9.2 km west of the Site.	No – Planning Inspectorate Report available. The report states that the PEA mentions the development is not likely to harm protected species. Given the amount of natural habitat within the wider landscape, no cumulative effects are anticipated on the important ecological features.
P/20/42/FUL Pant y Wal Extension (Phase 2)	Wind Farm - 2 turbines, 125 m in height. Located c.6.5 km northeast of the Site.	No - Scoping Report available. Given the amount of natural habitat within the wider landscape, no cumulative effects are anticipated on the important ecological features.
11/1468/FUL Taff Ely (repowering)	Wind Farm - seven turbines, 110 m in height Located c.9 km northeast of the Site.	No – Environmental Statement available. The Environmental Statement concludes that bat collisions with turbines was unlikely and there would be no significant impacts on bat populations. Given the amount of natural habitat within the wider landscape, no cumulative effects are anticipated on the important ecological features.

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