

# Ffynnon Oer Wind Farm Life Extension

## Section 15 - Ecology and Ornithology

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## Glossary

| Term                                  | Definition                                                                                                                                                                                             |
|---------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Applicant                             | Ffynnon Oer Windfarm Limited                                                                                                                                                                           |
| Baseline                              | The existing conditions that prevail against which the effects of the wind farm life extension are assessed against.                                                                                   |
| EIA Regulations                       | The Town and Country Planning (Environmental Impact Assessment) (Wales) Regulations 2017 (as amended).                                                                                                 |
| Environmental Impact Assessment (EIA) | EIA is a means of carrying out, in a systematic way, an assessment of the likely significant environmental effects from a development.                                                                 |
| Environmental Statement (ES)          | A document reporting the findings of the EIA and produced in accordance with the EIA Regulations.                                                                                                      |
| ES Addendum                           | A supplementary document to the original ES that provides additional and updated environmental information.                                                                                            |
| Proposed Life Extension               | The proposed life extension for Ffynnon Oer Wind Farm to continue operating for an additional 10 years.                                                                                                |
| Section 73                            | Section 73 of the Town and Country Planning Act 1990 (as amended). An application under Section 73 is an application to remove or vary planning conditions attached to a previous planning permission. |
| Site boundary                         | The land occupied by Ffynnon Oer Wind Farm.                                                                                                                                                            |

## Abbreviations

| Abbreviation | Definition                    |
|--------------|-------------------------------|
| BAI          | Bat Activity Index            |
| BF           | Beaufort Force                |
| BBS          | Breeding bird surveys         |
| BDP          | Biodiversity Duty Plan        |
| BoCC         | Birds of Conservation Concern |

|         |                                                             |
|---------|-------------------------------------------------------------|
| BTO     | British Trust for Ornithology                               |
| CIEEM   | Chartered Institute of Ecology and Environmental Management |
| DEFRA   | Department for Environment, Food and Rural Affairs          |
| EC      | European Commission                                         |
| EclA    | Ecological Impact Assessment                                |
| EIA     | Environmental Impact Assessment                             |
| ES      | Environmental Statement                                     |
| HMP     | Habitat Management Plan                                     |
| IBA     | Important Bird Areas                                        |
| IEF     | Important Ecological Features                               |
| JNCC    | Joint Nature Conservation Council                           |
| LNR     | Local Nature Reserve                                        |
| LPA     | Local Planning Authority                                    |
| LWS     | Local Wildlife Site                                         |
| MAGIC   | Multi-Agency Geographic Information for the Countryside     |
| NBN     | National Biodiversity Network                               |
| NNR     | National Nature Reserve                                     |
| NPTCBC  | Neath Port Talbot County Borough Council                    |
| NRAP    | Nature Recovery Action Plan                                 |
| NRW     | Natural Resources Wales                                     |
| QA      | Quality Assurance                                           |
| RLDP    | Replacement Local Development Plan                          |
| RSPB    | Royal Society for the Protection of Birds                   |
| SAC     | Special Area of Conservation                                |
| SEWBrEC | South East Wales Biological Records Centre                  |
| SPA     | Special Protection Area                                     |



## 15.12 Introduction

- 15.12.1 This section of the ES Addendum provides an updated assessment of potential effects on ecological and ornithological features (hereafter 'ecological features') relevant to the proposed 10-year life extension of Ffynnon Oer Wind Farm (hereafter the 'Proposed Life Extension').
- 15.12.2 The original ES for Ffynnon Oer Wind Farm<sup>1</sup> was submitted in 2002 as part of an application for planning permission to the Local Planning Authority (LPA), Neath Port Talbot County Borough Council (NPTCBC), who granted planning permission on 27th May 2003 for an operational life of 20 years after the date of commencement of electricity generation. Ffynnon Oer Wind Farm commenced generation of electricity on the 31st July 2006 and has continued operation since this date.
- 15.12.3 A summary of baseline results and assumptions is provided in Sub-section 15.16, however, details given in the original ES<sup>1</sup> are not repeated here. Methods and results to support the application for the Proposed Life Extension are presented in this ES Addendum, along with an impact assessment based on these results where relevant. All other information is included in Section 15 of the original ES<sup>1</sup>.
- 15.12.4 Ecological features retained for assessment (Important Ecological Features (IEFs)) within this ES Addendum were limited to common pipistrelle, soprano pipistrelle, Nathusius' pipistrelle and Leisler's bats. No significant effects were identified either in the short or longer term for these IEFs.
- 15.12.5 All scientific names for species named within this ES Addendum are given in Appendix A15.2: Ecology and Ornithology Technical Appendix, which also includes details of survey dates, times and weather conditions.

## 15.13 Legislation Policy and Guidance

- 15.13.1 Since the original ES<sup>1</sup> was submitted in 2002, there have been significant updates to legislation in relation to protection of habitats and species, and new guidance on ecological surveys and impact assessment for wind developments. A list of relevant legislation and guidance is provided below, and this framework of international, national and local legislation and

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<sup>1</sup> Entec UK Limited (2002). Proposed Wind Farm Ffynnon Oer Environmental Statement, Volume 1 Main Report and Appendices. National Wind Power (within Appendix A1.2 of this ES Addendum).

planning policy guidance, which exists to protect habitats and specific species, has been considered as part of this assessment.

## Legislation

15.13.2 The following legislation is relevant to this section:

- Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora of 1992 (the Habitats Directive)<sup>2</sup> ;
- Directive 2009/147/European Commission (EC) on the Conservation of Wild Birds 2009 (the Birds Directive)<sup>3</sup> ;
- The Conservation of Habitats and Species Regulations 2017<sup>4</sup>;
- The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019<sup>5</sup> ;
- Wildlife and Countryside Act (WCA) 1981 (as amended)<sup>6</sup> ;
- The Environment (Wales) Act 2016<sup>7</sup>;
- Well-being of Future Generations (Wales) Act 2015<sup>8</sup>; and
- Protection of Badgers Act 1992 (as amended)<sup>9</sup>.

## Policy

15.13.3 The following policies are relevant to this section in a national context:

- Technical Advice Note 5: Nature Conservation and Planning (2009)<sup>10</sup>;
- Planning Policy Wales: Edition 12 (2024)<sup>11</sup> ;
- Future Wales: The National Plan 2040<sup>12</sup>;

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<sup>2</sup> UK Government (1992). Council Directive 92/43/EEC.

<sup>3</sup> UK Government (2009). Directive 2009/147/EC of the European Parliament and of the Council.

<sup>4</sup> UK Government (2017). The Conservation of Habitats and Species Regulations 2017.

<sup>5</sup> UK Government (2019). The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019.

<sup>6</sup> UK Government (1981). Wildlife and Countryside Act 1981.

<sup>7</sup> UK Government (2016). Environment (Wales) Act 2016.

<sup>8</sup> UK Government (2015). Well-being of Future Generations (Wales) Act 2015.

<sup>9</sup> UK Government (1992). Protection of Badgers Act 1992 (as amended).

<sup>10</sup> Welsh Assembly Government (2009). Planning Policy Wales Technical Advice Note 5: Nature Conservation and Planning. Available at: <https://www.gov.wales/sites/default/files/publications/2018-09/tan5-nature-conservation.pdf> [Accessed: 06/01/2025]

<sup>11</sup> Welsh Government (2024). Planning Policy Wales: Edition 12. Available at: <https://www.gov.wales/sites/default/files/publications/2024-07/planning-policy-wales-edition-12.pdf> [Accessed 06/01/2026]

<sup>12</sup> Welsh Government (2021). Future Wales: The National Plan 2040. Available at: <https://www.gov.wales/future-wales-national-plan-2040-0> [Accessed: 25/02/2026]

- United Kingdom (UK) Biodiversity Framework 2024<sup>13</sup>; and
- The Welsh Biodiversity Strategy comprising:
  - The Nature Recovery Plan for Wales (2015)<sup>14</sup>; and
  - The Nature Recovery Action Plan (NRAP) for Wales 2020-2021<sup>15</sup>.

15.13.4 In addition, the Neath Port Talbot (NPT) Council Biodiversity Duty Plan 2023 (BDP)<sup>16</sup> has been designed to set out regional targets for biodiversity and sustainability at a local scale. There are also policies for the consideration of net benefit for biodiversity in relation to Local Planning Policy, including the NPT Local Development Plan (2016)<sup>17</sup> which has been updated with a Replacement Local Development Plan (RLDP)<sup>18</sup>. This also includes a local (NRAP)<sup>19</sup> delivered by NPT Local Nature Partnership.

## Guidance

15.13.5 Particular attention has also been given to the guidance documents listed below, that are applicable to assessing the effects of wind farm developments on ecology and ornithology:

- Guidelines for Ecological Impact Assessment in the UK and Ireland (2018) updated in 2024<sup>20</sup>;

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<sup>13</sup> Joint Nature Conservation Committee (2024). UK Biodiversity Framework 2024. Available at: <https://jncc.gov.uk/resources/19a729f6-440e-4ac6-8894-cc72e84cc3bb> [Accessed: 06/01/2026]

<sup>14</sup> Welsh Government (2015). The Nature Recovery Plan for Wales. Available at: <https://www.gov.wales/sites/default/files/publications/2019-05/nature-recovery-action-plan-2015.pdf> [Accessed: 06/01/2026]

<sup>15</sup> Welsh Government (2020). The Nature Recovery Action Plan for Wales 2020-21. Available at: <https://www.gov.wales/sites/default/files/publications/2020-10/nature-recovery-action-plan-wales-2020-2021.pdf> [Accessed: 06/01/2026]

<sup>16</sup> Neath Port Talbot Council (2023). Biodiversity Duty Plan 2023-2026. Available at: <https://www.npt.gov.uk/culture-and-tourism/countryside-and-wildlife/wildlife-law-and-advice/biodiversity-duty-plan/> [Accessed: 06/01/2026]

<sup>17</sup> Neath Port Talbot Council (2016). Local Development Plan (2011-2026). Adopted January 2016. Available at: [https://media.npt.gov.uk/media/ca2fbumd/ldp\\_written\\_statement\\_jan16.pdf?v=20240823155047](https://media.npt.gov.uk/media/ca2fbumd/ldp_written_statement_jan16.pdf?v=20240823155047) [Accessed: 06/01/2026]

<sup>18</sup> Neath Port Talbot Council (2023). Replacement Local Development Plan (RLDP) 2023-2038. Available at: <https://www.npt.gov.uk/planning-and-building-control/planning-policy/replacement-local-development-plan-rldp-2023-2038/> [Accessed: 06/01/2026]

<sup>19</sup> Neath Port Talbot Local Nature Partnership (n.d.). Nature Recovery Action Plan. Available at: <https://www.naturenpt.cymru/actions> [Accessed: 06/01/2026]

<sup>20</sup> CIEEM (2018). Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine version 1.3. Chartered Institute of Ecology and Environmental Management, Winchester.

- NatureScot pre-application guidance for onshore wind farms (2025)<sup>21</sup>;
- Bats and onshore wind turbines – survey, assessment and mitigation (2021)<sup>22</sup>;
- Recommended bird survey methods to inform impact assessment of onshore windfarms (2025)<sup>23</sup>; and
- Assessing the cumulative impacts of onshore wind farms on birds (2025)<sup>24</sup>.

## 15.14 Consultation

15.14.1 Following a meeting with the NPTCBC planning department in November 2024, an initial consultation letter was submitted to NPTCBC in March 2025, outlining the proposed scope of ecology and ornithology surveys for the Proposed Life Extension. Following submission of the consultation letter, a meeting between Natural Power and NPTCBC’s Senior Planning Officer and Independent Ecologist took place on 2nd April 2025 to discuss the proposed survey programme. NPTCBC agreed that it was appropriate for the proposed ecology and ornithology surveys to focus on bats and breeding birds of conservation concern<sup>25</sup> respectively. NPTCBC recommended that surveys to assess the effectiveness of the Habitat Management Plan (HMP)<sup>26</sup> were carried out. Details of the surveys to assess the effectiveness of the HMP objectives are provided in Appendix A15.1: Habitat Management Plan Review and Biodiversity Enhancements.

15.14.2 A Scoping Report<sup>27</sup> was submitted to NPTCBC in August 2025, with a Scoping Opinion returned in October 2025. Following consultee responses as

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<sup>21</sup> NatureScot (2025). NatureScot pre-application guidance for onshore wind farms. Available at: <https://www.nature.scot/doc/naturescot-pre-application-guidance-onshore-wind-farms> [Accessed: 06/01/2026]

<sup>22</sup> NatureScot (2021). Bats and onshore wind turbines – survey assessment and mitigation. Available at: <https://www.nature.scot/doc/bats-and-onshore-wind-turbines-survey-assessment-and-mitigation> [Accessed: 06/01/2026]

<sup>23</sup> NatureScot (2025). Recommended bird survey methods to inform impact assessment of onshore windfarms. Available at: <https://www.nature.scot/doc/recommended-bird-survey-methods-inform-impact-assessment-onshore-windfarms> [Accessed: 06/01/2026]

<sup>24</sup> NatureScot (2025). Guidance – Assessing the cumulative impacts of onshore wind farms on birds. Available at: <https://www.nature.scot/doc/guidance-assessing-cumulative-impacts-onshore-wind-farms-birds> [Accessed: 06/01/2025]

<sup>25</sup> Bird species listed on Annex I of the Birds Directive, Schedule 1 of the Wildlife and Countryside Act 1981 (as amended), Section 7 of the Environment (Wales) Act 2016 and/or the Wales BoCC Red or Amber List.

<sup>26</sup> Entec UK Limited. (2005). Ffynnon Oer Windfarm Habitat Management Plan. RWE nPower Renewables.

<sup>27</sup> Natural Power (2025). Ffynnon Oer Life Extension Scoping Report (Document reference: 1384308). Nadara Limited (within Appendix A1.2 of this ES Addendum)

contained in the Scoping Opinion, the following features have been scoped out and are not considered further in the assessment in this ES Addendum:

- Coedydd Nedd a Mellte Special Area of Conservation (SAC);
- Protected mammals (excluding bats); and
- Habitats.

15.14.3 Details of scoping responses and an explanation of how scoping responses have been addressed are provided in Table 15.3.

**Table 15.3: Summary of consultee responses relating to ecology and ornithology**

| Consultee                                 | Comments/issues raised/<br>recommendations                                                                                                                  | Response/outcomes                                                                                                                                 |
|-------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| NPTCBC<br>October 2025<br>Scoping Opinion | Acknowledged that potential effects on the Coedydd Nedd a Mellte SAC, habitats and protected mammals were scoped out of the assessment in this ES Addendum. | In line with consultee feedback, the Coedydd Nedd a Mellte SAC, habitats and protected mammals (excluding bats) are scoped out of the assessment. |
|                                           | Acknowledged that potential effects on bats and birds are scoped into this ES Addendum and confirmed approach to bat and bird surveys were acceptable.      | An assessment of potential effects on bats and birds is provided in Sub-section 15.19.                                                            |
|                                           | Acknowledged that an assessment of the HMP objectives would be included within this ES Addendum.                                                            | An assessment of the HMP is provided in Appendix A15.1.                                                                                           |
|                                           | Stated the HMP should be submitted in support of the planning application.                                                                                  | Proposed updates to the HMP are provided in Appendix A15.1.                                                                                       |
| Natural Resources Wales (NRW)             | Advised that targeted species surveys should be undertaken for all species                                                                                  | A summary of survey methods used is provided in Sub-                                                                                              |

| Consultee                       | Comments/issues raised/<br>recommendations                                                                                                                                                                                                                                                                        | Response/outcomes                                                                                                                                                                                                                              |
|---------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| October 2025<br>Scoping Opinion | scoped into the assessment in this ES Addendum, by suitably qualified (or licensed if required) ecologists, and comply with current best practice guidance. Noted that any deviations from best practice guidance should be fully justified.                                                                      | section 15.17, with full details provided in Appendix A15.2.                                                                                                                                                                                   |
|                                 | Confirmed that a desk-based study in combination with a single year of bird distribution and abundance surveys is sufficient to update the assessment of impacts of the Proposed Life Extension on birds.                                                                                                         | Desk study results are provided in Sub-section 15.18.                                                                                                                                                                                          |
|                                 | Noted that methods for carcass searches for birds were not explicitly provided within the Scoping Report and advised that details would be required.                                                                                                                                                              | Methods relating to carcass searches for birds are provided in Sub-section 15.17.                                                                                                                                                              |
|                                 | Confirmed that a desk-based study in combination with static activity surveys, carcass searches and persistence trials is sufficient to assess the impact of the Proposed Life Extension on bats.<br>Advised that Ecobat is used to assess bat activity and that a comparison of bat activity in relation to wind | A summary of the results of the desk-based study and bat surveys is provided in Sub-section 15.18, including analysis in relation to wind speed and cut in speed.<br>A summary of Ecobat survey results is also provided in Sub-section 15.18. |

| Consultee | Comments/issues raised/<br>recommendations                                                                                                                                                                                                                                                                                                                                                                                                                                  | Response/outcomes                                                                                                                                               |
|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|
|           | <p>speed is analysed in the context of the cut in speed of the turbines.</p>                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                 |
|           | <p>Advised that mitigation measures are clearly set out in the ES Addendum.</p> <p>Advised that NatureScot guidance to mitigate impacts on bats should be implemented for the Proposed Life Extension, specifically the inclusion of information in the ES Addendum on appropriate standoff buffers surrounding turbines to the closest suitable bat habitat features.</p> <p>Noted that standoff buffers may need to be incorporated into the Proposed Life Extension.</p> | <p>Embedded mitigation measures and standoff buffers to bat habitat features are discussed in relation to the Proposed Life Extension in Sub-section 15.19.</p> |
|           | <p>Advised that identified impacts on protected species in the short, medium and long term should be included together with retention, mitigation and / or compensation measures.</p> <p>Advised that information relating to the management and monitoring of mitigation</p>                                                                                                                                                                                               | <p>The approach to impact assessment in this ES Addendum is outlined in Sub-section 15.15.</p>                                                                  |

| Consultee | Comments/issues raised/<br>recommendations                                                                                                                                                                                        | Response/outcomes                                                                                                                                                                                                                                                              |
|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|           | and compensation measures is set out in the ES Addendum and Conservation Plans are prepared where appropriate for protected species subject to potential significant impacts.                                                     |                                                                                                                                                                                                                                                                                |
|           | Noted that a licence should be obtained from NRW if impacts on a European Protected Species (EPS) are identified, with requirements set out in the Conservation of Habitats and Species Regulations 2017 (as amended) adhered to. | No EPS were recorded during surveys carried out in 2025, therefore no licence was required.                                                                                                                                                                                    |
|           | Advised that the ES Addendum must include a description of ecological interests within the vicinity of the site together with a detailed assessment of impacts and associated significance.                                       | Results of the desk study and ecological surveys are provided in Sub-section 15.18, with assessment of IEFs provided in Sub-section 15.19.                                                                                                                                     |
|           | Advised that a Phase 1 habitat survey should be undertaken during summer months to update the previous one completed in 2002 for the original ES, and to assess requirements for further species-specific surveys.                | As there are no proposed changes to the infrastructure of the Proposed Life Extension (there is no requirement for any construction works), there are no potential effects from associated habitat loss or disturbance. Therefore, no impacts on habitats or protected mammals |

| Consultee | Comments/issues raised/<br>recommendations                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Response/outcomes                                                                                                                                                                                                                                                                                                                                                                                                                |
|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|           | <p>Advised that the scope of HMP objectives for the Proposed Life Extension is discussed with the LPA's Independent Ecologist.</p> <p>Recommends that the ES Addendum includes a comprehensive review of the effectiveness of the HMP to date and that management for the Proposed Life Extension should be revised based on current habitat conditions.</p> <p>Noted that the ES Addendum should include information on future management and implementation and demonstrate alignment with current biodiversity enhancement targets.</p> <p>Recommended that the LPA's Independent Ecologist is consulted on the scope of works to ensure habitats and species of local and regional</p> | <p>(excluding bats) are anticipated.</p> <p>However, the undertaking of a Phase 1 habitat survey is discussed in relation to mitigation and biodiversity enhancement in Sub-section 15.20.</p> <p>A review of the HMP together with updated HMP measures and outline biodiversity enhancements is provided in Appendix A15.1.</p> <p>The LPA's Independent Ecologist was consulted as discussed in Paragraph 15.14.1, above.</p> |

| Consultee | Comments/issues raised/<br>recommendations                                                                                                                                                                                                                                                                        | Response/outcomes                                                                                                                                      |
|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
|           | importance for biodiversity in Wales are considered.                                                                                                                                                                                                                                                              |                                                                                                                                                        |
|           | Advised that biological records should be sought from the local records centre and relevant ecological organisations /interest groups.                                                                                                                                                                            | A data search was completed and is discussed in Sub-section 15.17. A summary of results is presented in Sub-section 15.18, Table 15.9 and Table 15.10. |
|           | Acknowledged that no new or replacement infrastructure is proposed as part of the Proposed Life Extension. Confirmed that the approach taken in this ES Addendum to focus on features which may be subject to significant effects from the Proposed Life Extension (either directly or indirectly) is acceptable. | Detailed results are provided in Appendix A15.2.<br><br>The method of assessment is outlined in Sub-section 15.15.                                     |

Source: Natural Power

## 15.15 Method of Assessment

15.15.1 The Proposed Life Extension will result in no physical changes to the wind farm – turbines, tracks and associated infrastructure will remain in situ with no change in size or layout. Although a wide range of habitats, mammals, amphibians, reptiles, invertebrates and birds are usually assessed when considering a proposed wind development, the assessment for the Proposed Life Extension has been undertaken in line with consultation responses, and as such will focus on ecological features which may be subject to significant effects.

15.15.2 As legislation and guidance in relation to wind developments has been updated since the original ES<sup>1</sup> (2002), current good practice in relation to the protection of bat roosts (through turbine buffer zones around woodland) has been considered in relation to the Proposed Life Extension. Further details regarding mitigation measures, including embedded and additional mitigation, are provided in Sub-section 15.19.

## Approach to Impact Assessment

15.15.3 The approach to the Ecological Impact Assessment (EclA) adopted within this assessment follows the Chartered Institute of Ecology and Environmental Management (CIEEM) guidelines<sup>20</sup>, and in line with these, professional judgement has been applied where appropriate. The criteria used and the underlying rationale are described further within the following sections.

15.15.4 Given the scope of the proposal is limited to the retention of existing operational wind farm infrastructure on site for continued energy production for a maximum of 10 years, it is considered that potential effects that require assessment in relation to the Proposed Life Extension will be limited to potential collision mortality impacts on bats and birds. These impacts are discussed in turn in Sub-section 15.19 in relation to continued operation. Embedded mitigation is included to prevent impacts on other protected species and habitats in relation to any track maintenance required over the period of the life extension, and in relation to decommissioning, discussed in further detail in Sub-section 15.19. As such, no specific impact assessment has been undertaken for other ecological features following discussions at scoping stage for this ES Addendum, as outlined in Table 15.3.

15.15.5 A cumulative impact assessment has been undertaken to allow the consideration of any additional developments that have been submitted, consented or are operational, since the submission of the original ES<sup>1</sup> in 2002, as set out in Sub-section 15.22, Table 15.20.

## Target Species

15.15.6 All bat species are target species in the context of the assessment in this ES Addendum.

15.15.7 The ornithology surveys carried out for the Proposed Life Extension focused on protected bird species and birds of conservation concern, with reference to the following lists:

- Species listed under Annex I of the EC Birds Directive (2009)<sup>3</sup>;
- Species listed under Schedule 1 of the WCA 1981 (as amended)<sup>6</sup>;
- Species listed under Section 7 of the Environment (Wales) Act 2016<sup>7</sup>; and
- Red/Amber-listed Birds of Conservation Concern in Wales (BoCC) (2021)<sup>28</sup>.

## Determining Important Ecological Features (IEFs)

15.15.8 In accordance with CIEEM guidelines,<sup>20</sup> the importance of an ecological feature is based upon its respective elements relating to biodiversity and ecosystem services. The importance of a feature is determined within a geographical frame of reference as detailed in Table 15.4.

**Table 15.4: Geographical context relating to the evaluation of an IEF**

| Level of value | Example of IEF                                                                                                                                                                                                                                                                                                                                                                   |
|----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| International  | An internationally designated site (e.g. SAC, Special Protection Area (SPA)), or site meeting criteria for international designations such as a World Heritage Site (WHS) or United Nations Educational Scientific and Cultural Organisation (UNESCO) Biosphere Reserve.                                                                                                         |
| National       | A nationally designated site such as a Site of Special Scientific Interest (SSSI), or a National Nature Reserve (NNR), or sites meeting the criteria for national designation (as per Joint Nature Conservation Committee (JNCC) guidelines).<br>Species populations/habitat areas present with sufficient conservation importance to meet criteria for national site selection. |
| Regional       | Sites designated as local nature reserves such as Wildlife Trust of South and West Wales (WTSWW) Reserves or Local Wildlife Sites (LWS).<br>Species populations/habitat areas at present falling short of SSSI selection criteria but with sufficient conservation importance to likely meet criteria for selection as a local site.                                             |
| Local          | Areas of habitat or species populations considered to appreciably enrich the ecological resource within the local context, e.g. species-                                                                                                                                                                                                                                         |

<sup>28</sup> Stanbury, A., Eaton, M., Aebischer, N., Balmer, D., Brown, A., Douse, A., Lindley, P., McCulloch, N., Noble, D., and Win I. (2021). Birds of Conservation Concern 5: the population status of birds in the United Kingdom, Channel Islands and Isle of Man. *British Birds* 114, 723–747.

| Level of value | Example of IEF                                                                                                                                               |
|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                | rich flushes or hedgerows, evidence of regular otter activity or areas of semi-natural ancient woodland smaller than 0.25 ha.                                |
| Negligible     | Usually widespread and common habitats and species. Features falling below Local importance are not normally considered in detail in the assessment process. |

15.15.9 Attributing geographical value to a feature is generally straightforward in the case of designated sites, as the designations themselves are normally indicative of level of value. For example, a SAC designated under the Habitats Directive is explicitly of European (International) importance. However occasionally a default level of value may not be appropriate in the specific context of a proposal. Where this is the case professional judgement has been applied and rationale for decreasing or increasing the geographical level of value of a feature is given. An example of this might be bats, all of which are of international importance due to their protection under Annex IV of the Habitats Directive. However, if only very few foraging/commuting records of common and widespread bat species were made at a site, attributing international importance to the population present at the proposed development would be disproportionate and the importance would be reduced accordingly (noting that this does not change the protection level from a legislative standpoint). For non-designated features, the use of guidelines such as the national guidelines for the selection of SSSIs can be helpful in determining a feature's importance and level of value.

15.15.10 Part of the process of attributing importance to a species involves defining the population to be valued and requires professional judgment to identify an ecologically coherent population against which effects on integrity<sup>29</sup> can be assessed. For example, for wide-ranging species such as otter, it may be more appropriate to consider the otter population in a whole catchment, whereas for more localised species, such as water vole, importance may be attributed to groups of related colonies which function as a meta-population.

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<sup>29</sup> Note that integrity in this context refers to ecological integrity of a habitat type or population of a species at a defined value level, i.e. the maintenance of the conservation status of a population of a species at a specific location or geographic scale. This should not be confused with the specific term 'Site Integrity' used in Appropriate Assessment for European protected sites.

15.15.11 In line with the principles of proportionate EIA, embedded mitigation is considered at the outset of the assessment. IEF status has only been assigned where there is still considered to be the potential for significant effects to the integrity of the feature at the assigned value level arising from the proposal, after the application of embedded measures.

## Valuing Bats

15.15.12 For the purposes of this assessment and of assigning value to bats, the guidance set out by NatureScot<sup>22</sup> has also been considered. Although produced by the Scottish governmental body, it has been accepted as standard guidance for the rest of the UK. Table 2 in this guidance identifies the population vulnerability of bat species based on the collision risk posed for individual bat species by wind turbines as determined by behavioural characteristics, and by bat population sensitivity based upon species rarity (adapted from Wray et al. (2010)<sup>30</sup>). Table 15.5 summarises the risk of turbine impact to bat species and the sensitivity of bat populations.

**Table 15.5: Risk of turbine impact affecting Welsh bat populations**

| Species                | Turbine impact/Collision risk | Sensitivity of population |
|------------------------|-------------------------------|---------------------------|
| Common pipistrelle     | High                          | Medium                    |
| Soprano pipistrelle    | High                          | Medium                    |
| Nathusius' pipistrelle | High                          | High                      |
| <i>Myotis</i> species  | Low                           | Low/Medium                |
| Long-eared bats        | Low                           | Low/Medium                |
| Noctule                | High                          | High                      |
| Leisler's              | High                          | High                      |
| Horseshoe bats         | Low                           | Low/Medium                |
| Barbastelle            | Medium                        | Medium                    |
| Serotine               | Medium                        | Medium                    |

<sup>30</sup> Wray, S., Wells, D., Long, E. & Mitchell-Jones, T. (2010). *Valuing Bats in Ecological Impact Assessment*. IEEM In-Practice p. 23-25.

Source: NatureScot<sup>22</sup>

15.15.13 Details provided in NatureScot (2021) guidance<sup>22</sup> include a framework for identifying the importance of bats in the landscape through the evaluation of bat roosts and habitats. Applying this framework, bat roosts can be valued according to species rarity and roost status.

## Characterising Potential Effects on Features

15.15.14 Impacts on IEFs are judged in terms of magnitude and duration. Magnitude refers to the size of an impact and is determined on a quantitative basis where possible. Where this is not possible, a more qualitative approach is taken. The criteria used in this assessment for describing the overall magnitude of a potential effect are summarised in Table 15.6, based on CIEEM guidance<sup>20</sup> and applied with professional judgement.

15.15.15 The assessment also considers whether the effect is positive or negative, short-term (for example only during decommissioning) or longer-term (throughout the lifetime of the Proposed Life Extension), reversible or permanent.

**Table 15.6: Criteria used within this EclA to determine the magnitude of ecological impacts**

| Impact Magnitude    | Description                                                                                                                                                                                                                                                                                                                             |
|---------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Very high negative  | Total or almost complete loss of an ecological feature resulting in a permanent adverse effect on the integrity of the feature. The conservation status of the feature would be permanently affected.                                                                                                                                   |
| Highly negative     | Result in large-scale, permanent changes in an ecological feature, likely to change its ecological integrity. These impacts are therefore likely to result in overall changes in the conservation status of an ecological feature.                                                                                                      |
| Moderately negative | Includes moderate-scale long-term changes in an ecological feature, or larger-scale temporary changes; however, the integrity of the ecological feature is not likely to be affected. This may result in temporary changes in the conservation status of the ecological feature, but these are reversible and unlikely to be permanent. |
| Low negative        | Includes long-term impacts that are small in magnitude, or larger-scale temporary changes, and where integrity of the ecological feature is not affected. These effects are unlikely to result in                                                                                                                                       |

| Impact<br>Magnitude | Description                                                                                                                      |
|---------------------|----------------------------------------------------------------------------------------------------------------------------------|
|                     | overall changes in the conservation status of an ecological feature.                                                             |
| Negligible          | No perceptible change in the ecological feature.                                                                                 |
| Positive            | The changes in the ecological feature are considered to be beneficial to its ecological integrity or nature conservation status. |

15.15.16 When characterising ecological impacts, it is essential to consider the likelihood that a change/activity will occur as predicted, with a degree of confidence in the impact assessment (in relation to the impact on ecological structure and function). Where possible, the degree of confidence should be predicted quantitatively. However, where this is not possible, a more qualitative approach is taken; particularly where the confidence level can only be based on expert judgement.

### Determining Significance of Ecological Effects

15.15.17 Only features for which there are considered to be the potential for significant effects are identified as IEFs and taken forward for full impact assessment. Having followed the process of identifying an IEF, and characterising potential impacts, the significance of the effect is then determined. CIEEM guidelines<sup>20</sup> use only two categories to classify effects: “significant” or “not significant”. A significant effect is defined in ecological terms as an effect on the integrity<sup>31</sup> of defined sites, habitats or ecosystems and the conservation status of a habitat or species. The significance of an effect is determined by considering the value level of the feature (see Table 15.4) and the magnitude of the effect (see Table 15.6) and applying professional judgement as to whether the integrity<sup>31</sup>/conservation status of the feature will be affected at the given value level. This concept can be applied to both designated and non-designated sites and to defined populations.

### Trends and Predicted Future Baseline

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<sup>31</sup> Integrity in this instance refers to the structure and function of the defined site, habitat or ecosystem.

- 15.15.18 In the absence of the Proposed Life Extension, it is assumed that Ffynnon Oer Wind Farm would be decommissioned following appropriate guidelines outlined in a Decommissioning Plan.
- 15.15.19 Current land use within the site boundary is primarily sheep and cattle grazing. Following decommissioning it is likely that the habitats present within the site would be retained as they currently are, having been under relatively similar agricultural management since before the original ES was submitted in 2002.
- 15.15.20 Predicted future baseline is a tool to allow comparison of the proposal with the conditions that would be likely to occur on the site in the absence of the proposal. As the life extension is proposed for a maximum of 10 years, it is not appropriate to try to predict any changes longer than those likely within the 10-year time frame covered by this proposal, as they bear no relevance to the assessment of the impacts discussed herein.
- 15.15.21 No physical changes to the turbines or other infrastructure are required for the life extension, nor will the habitats present or management of the land change as a result of this Section 73 life extension application. Ongoing maintenance of tracks will be required, and embedded mitigation to prevent any adverse effects associated with maintenance, is provided in Sub-section 15.19.

## 15.16 Baseline

- 15.16.1 Baseline results from the original ES were summarised in Section 9.2 of the Scoping Report<sup>27</sup>. Surveys undertaken in relation to the original application were lesser in scope when compared with current guidance, and were completed for habitats, birds, protected mammals (excluding bats) and invertebrates. No surveys or assessment were provided for bats, reptiles or amphibians. Results of the baseline surveys for the original application identified priority habitat blanket bog and birds of conservation concern<sup>25</sup> including Section 7<sup>7</sup> species (kestrel, skylark, song thrush and reed bunting) and Schedule 1<sup>6</sup> species (red kite and crossbill). However, no protected mammals or sensitive invertebrate species were recorded.
- 15.16.2 The original ES<sup>1</sup> predicted that wind farm construction would have an adverse effect on blanket bog, however mitigation measures including compensation and enhancement, would result in a positive effect. Potential impacts of collision for birds were considered to be low based on species avoidance behaviour, and no adverse effects were predicted for brown hare, the only mammal recorded, or invertebrates.

- 15.16.3 While acknowledging that population trends may have been impacted by factors unrelated to the wind farm (impacts from climate change or large-scale impacts as a result of long-term population declines), on a site level it is considered unlikely that ecological conditions have changed significantly between 2002 and 2026. Agricultural management within the site, grazing of cattle and sheep, has remained similar throughout operation.
- 15.16.4 Based on the review of the HMP<sup>26</sup> (see Appendix A15.1), management prescriptions for habitat enhancement have been effective, indicating that the habitats within the site were more species rich in 2025 than in 2002, particularly blanket bog. Additionally, following a desk study and surveys to update the baseline information at the site in 2025, the bird community recorded in 2025 was broadly similar to that of 2002, with no wader species recorded in either 2002 or 2025.

## 15.17 Survey Methodology

### Desk Study

#### *Data Search*

- 15.17.1 A data search from the South East Wales Biological Records Centre (SEWBRc) and Royal Society for the Protection of Birds (RSPB) provided all records of protected and notable species within a 2 km buffer of the site boundary, extending to a 10 km buffer for bats and birds of conservation concern<sup>25</sup>.
- 15.17.2 Records were also requested from NRW and the Gower Ornithological Society. NRW advised that records are publicly available for download from the National Biodiversity Network (NBN)<sup>32</sup> and the Gower Ornithological Society recommended obtaining their records through SEWBRc. Records of protected and notable species within a 2 km buffer of the site boundary, extending to a 10 km buffer for bats and birds of conservation concern, were obtained from NBN.

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<sup>32</sup> National Biodiversity Network Trust. Available at: [https://nbn.org.uk/?gad\\_source=1&gad\\_campaignid=799879603&gclid=EAlaIqobChMImJzz-JT3kQMVtZlQBh1hgCL8EAAYASAAEgK3gPD\\_BwE](https://nbn.org.uk/?gad_source=1&gad_campaignid=799879603&gclid=EAlaIqobChMImJzz-JT3kQMVtZlQBh1hgCL8EAAYASAAEgK3gPD_BwE) [Accessed 06/01/2026]

## Statutory, National and Locally Designated Sites of Nature Conservation

15.17.3 A web-based search employing the online tools NRW Designated Sites Search website<sup>33</sup> and the (Department for Environment, Food and Rural Affairs) Defra Multi-Agency Geographic Information for the Countryside (MAGIC) Map application tool<sup>34</sup> was undertaken to identify and provide information on statutory designated sites of nature conservation, located within the following search areas:

- SACs and SPAs within 10 km of the site boundary (25 km for SPAs designated for geese);
- Ramsar sites (Ramsar Convention on Wetlands of International Importance) where waterfowl or waterfowl habitat are described as ecological features within 10 km of the site boundary (25 km for geese);
- SSSIs and Important Bird Areas (IBAs) within 5 km of the site boundary;
- Local and National Nature Reserves (LNRs/NNRs), including RSPB reserves within 2 km of the site boundary; and
- Local Wildlife Sites (LWS) and proposed LWSs within 2 km of the site boundary.

15.17.4 Additional records of LNRs, LWSs and any other locally designated sites were requested within the data search from SEWBRcC.

## Ecology Surveys

15.17.5 Ecology survey methods undertaken for the Proposed Life Extension are summarised below. For further information relating to survey methods, see referenced guidance documents listed in Sub-section 15.13 (which in the interest of proportionate EclA are not reproduced here) and Appendix A15.2.

### *Bat Static Activity Surveys*

15.17.6 Bat static activity surveys were completed for the Proposed Life Extension in 2025. The locations of all static detectors are shown on Figure 15.3: Ecology Survey Areas, Volume 2 of the ES Addendum. Detector locations were chosen to represent a variety of habitats on site in which turbines are

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<sup>33</sup> NRW Designated Sites Search. Available at: <https://naturalresources.wales/guidance-and-advice/environmental-topics/wildlife-and-biodiversity/protected-areas-of-land-and-seas/find-protected-areas-of-land-and-sea/?lang=en> [Accessed: 06/01/2026]

<sup>34</sup> Defra MAGIC Map tool. Available at: <https://magic.defra.gov.uk/> [Accessed: 06/01/2026]

situated rather than solely due to their proximity to bat features to prevent an overestimation of site activity. An even distribution of detectors across the site was achieved where detectors could be placed on existing fences or drystone walls, while allowing sufficient distance from turbines to reduce noise and electrical interference. Detector IDs correspond with the nearest turbine to deployment location. Detector locations in relation to nearest turbine and habitat type are provided in Table 15.7.

Table 15.7: Static detector deployment locations

| Detector ID | Grid reference | Habitat*                                          | Closest turbine (distance) | Approximate distance to nearest bat habitat feature** |
|-------------|----------------|---------------------------------------------------|----------------------------|-------------------------------------------------------|
| 1           | SS 84416 99557 | Open grassland (unimproved)                       | T1 (50 m)                  | 275 m (stream)                                        |
| 3           | SS 84378 99278 | Open grassland (poor semi-improved)               | T3 (90 m)                  | 250 m (drystone wall)                                 |
| 4           | SS 84877 98540 | Open grassland (semi-improved)                    | T4 (87 m)                  | 0 m (stream)                                          |
| 5           | SS 84052 98689 | Open grassland (semi-improved)                    | T5 (80 m)                  | 0 m (drystone wall)                                   |
| 7           | SS 84506 99049 | Open grassland adjacent to blanket bog            | T7 (107 m)                 | 0 m (drystone wall)                                   |
| 10          | SS 83828 98137 | Woodland edge adjacent to open grassland (marshy) | T10 (182 m)                | 0 m (woodland)                                        |

| Detector ID | Grid reference | Habitat*                               | Closest turbine (distance) | Approximate distance to nearest bat habitat feature** |
|-------------|----------------|----------------------------------------|----------------------------|-------------------------------------------------------|
| 13          | SS 84987 99009 | Open grassland adjacent to blanket bog | T13 (65 m)                 | 8 m (drystone wall)                                   |
| 16          | SS 84364 97998 | Open grassland (marshy)                | T16 (86 m)                 | 10 m (stream)                                         |

Source: Natural Power; \*Habitats identified during Phase 1 habitat surveys carried out in 2002 for the original ES<sup>1</sup>; \*\*Suitable bat habitat features include woodland, streams, hedges and drystone walls.

15.17.7 Full spectrum detectors (Wildlife Acoustics SM4 with SMM-U2 Ultrasonic Microphone) were placed at eight of the 16 turbine locations (see Figure 15.3) during spring, summer and autumn for a minimum of 10 nights in line with guidance<sup>22,35</sup> during the following deployment periods:

- Spring: 21st April to 10th May (Detectors 1, 3, 7, 13 and 16) and 23rd April to 10th May 2025 (Detectors 4, 5 and 10);
- Summer: 2nd to 14th July 2025 (all detectors); and
- Autumn: 21st September to 1st October 2025 (all detectors).

15.17.8 Detectors 4, 5 and 10 were deployed later than detectors 1, 3, 7, 13 and 16 as the anticipated location options for these three detectors were unsuitable. Therefore, alternative placement locations were identified before deployment on 23rd April 2025. It is considered the minor delay to the remainder of the detector deployment is not a limitation to the assessment and the dataset remains robust. A summary of detector deployment and the number of nights of deployment used in analysis for each detector is provided in Table 15.8.

**Table 15.8: Static detector deployment and survey effort**

<sup>35</sup> Collins, J (ed.) (2023) Bat surveys for Professional Ecologists: Good Practice Guidelines (4th Edition). The Bat Conservation Trust, London.

| Detector ID | Deployment period (no. nights) |        |        | Total no. nights deployed | No. nights removed* | Total no. nights included in analysis |
|-------------|--------------------------------|--------|--------|---------------------------|---------------------|---------------------------------------|
|             | Spring                         | Summer | Autumn |                           |                     |                                       |
| 1           | 19                             | 12     | 10     | 41                        | 5                   | 36                                    |
| 3           | 19                             | 12     | 10     | 41                        | 5                   | 36                                    |
| 4           | 17                             | 12     | 10     | 39                        | 5                   | 34                                    |
| 5           | 17                             | 12     | 10     | 39                        | 5                   | 34                                    |
| 7           | 19                             | 12     | 10     | 41                        | 16                  | 25                                    |
| 10          | 17                             | 12     | 10     | 39                        | 5                   | 34                                    |
| 13          | 19                             | 12     | 10     | 41                        | 5                   | 36                                    |
| 16          | 19                             | 12     | 10     | 41                        | 5                   | 36                                    |

Source: Natural Power; \*Nights removed due to technical issues with detectors and/or unsuitable weather.

### **Bat Carcass Searches**

15.17.9 Weekly carcass searches for bat carcasses with trained dogs and skilled handlers (Paws for Conservation Ltd<sup>36</sup>) were undertaken between 3rd July and 25th September 2025. The locations of carcass searches are shown on Figure 15.3, and a list of dates that turbines were searched is provided in Appendix A15.2. Locations for carcass searches were chosen where possible to coincide with locations of static detectors in order to be able to compare activity levels with potential carcass finds. In addition, search locations were also chosen based on the suitability of the locations for conducting dog searches (such as cattle presence, and/or barrier features) and whether they were an appropriate representation of habitats on site. Searches were undertaken at nine of the 16 turbines on one survey visit during the 13-week survey period, with eight of the turbines visited on the 12 remaining survey visits (see Figure 15.3). The total number of carcass searches (combined across all turbines) was 105 (between 1 and 13 visits to each turbine that was searched), out of a maximum possible 208 visits (13 visits each to all 16 turbines). This equates to 50% of turbines searched during this time period.

<sup>36</sup> Paws for Conservation Ltd. Available at: <https://pawsforconservation.co.uk/> [Accessed: 06/01/2026]

- 15.17.10 In addition to carcass searches with dogs, carcass persistence and searcher efficiency trials were carried out to allow extrapolation of results in line with NatureScot guidance<sup>22</sup>.
- 15.17.11 Carcass persistence trials using ten fresh mouse carcasses (in lieu of bat carcasses) were conducted during summer/autumn. As per standard industry practice, mouse carcasses are regularly used as a substitute for bat carcasses given the difficulty in obtaining bat carcasses and that they are a good proxy for a similar-sized mammal that takes a similar time to decompose. It is considered therefore the use of mouse carcasses does not influence the survey results and conclusions of this assessment. Carcasses were placed out and monitored by trail camera, which allows an accurate result for the length of time carcasses remain on site before either decomposing or being removed by scavengers. This is to estimate the likelihood of potential fatalities persisting within the site until the next search. In the event that carcasses remained in situ after a period of 30 days, they were removed by the surveyor.
- 15.17.12 Ten searcher efficiency trials were completed on 3rd July 2025, which involved a second surveyor placing out bat carcasses at locations unknown by both the dog and dog handler one to two hours prior to the start of dog searches. This allows the identification of a percentage searcher efficiency rate, used to represent the percentage change of the search dogs finding all fatalities.

## Ornithology Surveys

- 15.17.13 Ornithology survey methods are summarised below. For further information relating to survey methods, see referenced guidance documents listed in Sub-section 15.13 (which in the interests of proportionate EclA are not reproduced here).

### *Breeding Bird Surveys*

- 15.17.14 Breeding bird surveys (BBS) were completed between April and July 2025 following NatureScot (2017) guidance<sup>23</sup>. Four survey visits were undertaken in line with an adapted Brown and Shepherd (1993)<sup>37</sup> methodology, detailed

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<sup>37</sup> Brown, A.F. & Shepherd, K.B. (1993). *A Method for Censusing Upland Breeding Waders*. Bird Study **40**, 189-195.

in Calladine, et al. (2009)<sup>38</sup>. All areas of suitable habitat within the BBS Area (site boundary and surrounding 500 m buffer) was walked to within 100 m where access was permitted. Where access was not permitted within the survey buffer, surveyors scanned the buffer from the edges of the site boundary. Survey visits were spread at least seven days apart and carried out in suitable weather conditions. The BBS Area is shown on Figure 15.4: Ornithology Survey Areas. Further details of surveys are provided in Appendix A15.2, including survey dates and weather conditions.

15.17.15 Although surveys focussed on breeding waders, all species listed on Annex I of the Birds Directive<sup>3</sup>, Schedule 1 of the WCA 1981 (as amended)<sup>6</sup>, Section 7 of the Environment (Wales) Act (2016)<sup>7</sup> and the Wales BoCC Red/Amber List<sup>28</sup> encountered (seen or heard) were recorded and mapped using British Trust for Ornithology (BTO) code and notation. Following completion of all four survey visits, territory analysis was carried out using the cluster analysis method outlined in Bibby, et al. (2000)<sup>39</sup>.

### **Breeding Raptor Surveys**

15.17.16 Breeding raptor surveys were completed between April and July 2025 following methods outlined in Hardey, et al. (2013)<sup>40</sup>. Five survey visits were undertaken to record and map target raptor species in suitable habitat within the site boundary and a surrounding 2 km buffer, where accessible. Where access was not permitted within the survey buffer, surveys scanned the buffer from the edges of the site boundary or public rights of way. Each survey visit comprised a combination of short ad-hoc watches and a walkover of the site boundary to detect displaying, territorial or nesting behaviour.

15.17.17 Target raptor species were those listed on Annex I of the Birds Directive<sup>3</sup>, Schedule 1 of the Wildlife and Countryside Act 1981 (as amended)<sup>6</sup> and/or Section 7 of the Environment (Wales) Act 2016<sup>7</sup>, including honey-buzzard, goshawk, red kite, merlin, hobby and peregrine.

15.17.18 The breeding raptor survey area is shown on Figure 15.4.

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<sup>38</sup> Calladine, J., Garner, G., Wernham, C. & Thiel, A. (2009). *The influence of survey frequency on population estimates of moorland breeding birds*. *Bird Study*, 56, 381-388.

<sup>39</sup> Bibby, C.J., Burgess, N.D., Hill, D.A. and Mustoe, S., (2000). *Bird census techniques*. Elsevier.

<sup>40</sup> Hardey, J., Crick, H., Wernham, C., Riley, H., Etheridge, B. & Thompson, D. (2013). *Raptors: a field guide to survey and monitoring (3rd Edition)*. The Stationery Office, Edinburgh.

### ***Bird Carcass Searches***

15.17.19 Bird carcass searches were carried out in conjunction with the weekly bat carcass searches undertaken between 3rd July and 25th September 2025 using the same methodology. As described in Paragraphs 15.17.9 to 15.17.12, any bird carcasses present were also identified and retrieved.

## **Data Analysis**

### ***Acoustic Analysis – Static Detector Surveys***

15.17.20 Acoustic data analysis was undertaken using Kaleidoscope automatic identification software. Signal parameters were 16-120 kHz, 2-500 ms, 500 ms maximum inter-syllable gap with a minimum of two pulses. The Kaleidoscope software provides automatic identification to species level which were assumed to be correct for common pipistrelles, soprano pipistrelles and noise. Apart from Quality Assurance (QA) of noise subsets (20% or a maximum of 200 files per deployment), to ensure accuracy of Kaleidoscope identification these records were not investigated further. Automatic identification of other bat species records are considered less reliable, therefore manual QA checks were performed on all other acoustic records.

15.17.21 *Myotis* species were not identified further than genus due to the overlap between species frequency calls. *Pipistrellus*, long-eared and *Nyctalus* species were classified to species level when possible but noted to genus level where it was not possible to distinguish calls to species level. Social calls were identified where possible but not included in the bat pass counts used for analysis.

15.17.22 A bat pass was defined as a sequence of bat pulses captured on a 15 second sound file. One sound file was counted as one bat pass. Different species within the same 15 second sound file were counted as separate bat passes. Bat passes are an index of bat activity rather than a measure of number of individuals in a population. Bat activity indices are therefore indices of the amount of use bats make of an area. The Bat Activity Index (BAI) is calculated using the number of bat passes per species and detector divided by the total number of valid survey nights for each detector.

### **Wind Speed and Temperature Parameters**

15.17.23 NatureScot guidance<sup>22</sup> advises that bat static activity surveys should capture a sufficient number of nights with appropriate weather conditions, and recommend survey nights with wind speed above 5 m/s and/or temperatures below 10°C in England, and 8°C in Scotland. Although this best

practice guidance refers to England and Scotland, it has been applied in the analysis using professional judgement with respect to conditions in Wales. Weather data obtained from the site included wind speed and temperature data at a 10-minute resolution.

- 15.17.24 Due to the upland nature of the site, an adjusted maximum wind speed of 8 m/s was used to evaluate suitability for bat surveys. Temperature and wind speed were extracted for the time of dusk (start of nautical twilight) and all nights considered to have unsuitable weather conditions at dusk based on survey nights with a wind speed above 8 m/s and temperature below 10°C were removed from analysis.
- 15.17.25 Further details of parameters used in the bat static activity analysis are provided in Appendix A15.2.

### **Carcass Data Analysis**

#### **Search Radius**

- 15.17.26 The survey radius around each turbine to be searched was determined by geospatial modelling based on current research. Ballistic theory<sup>41,42</sup> has been utilised to produce carcass distributions for bats at turbines with a hub height of 65 m and 95 m. This is larger than the turbines present at Ffynnon Oer Wind Farm, which have a hub height of 58 m.
- 15.17.27 Results from these papers indicate that 99% of bat carcasses will fall within 57 m radius of the turbine base, with half of all carcasses found within the first 35 m. Other studies<sup>43</sup> have used an empirical estimate to determine that between 93% and 98% of bat carcasses fall within 50 m of a turbine with hub heights of 65 – 80 m. In both these examples, the search area required

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<sup>41</sup> Hull, C. L. and Muir, S. (2010). *Search areas for monitoring bird and bat carcasses at wind farms using a Monte-Carlo model*. Australasian Journal of Environmental Management. 17. 77-87

<sup>42</sup> Martin, E.J., Politano, M.S., Prakash, S., Carrica, P.M. and Markfort, C.C. (2017). *Optimizing bat carcass search areas using a CFD-Lagrangian modelling approach*. Mid American Company, University of Iowa.

<sup>43</sup> Korner-Nievergelt, F., Behr, O., Brinkmann, R., Etterson, M.A., Huso, M.M.P., Dalthorp, D., Korner-Nievergelt, P., Roth, T. and Niermann, I. (2015). *Mortality estimation from carcass searches using the R-package carcass - a tutorial*. Wildlife Biology. 30-43.

to collect 99% of all bat carcasses is less than the distance from the turbine base to hub height, but this relationship is not linear and so cannot be reliably extrapolated down for turbines with lower than 65 m hub height such as the 58 m hub height turbines at Ffynnon Oer Wind Farm. However, these studies show that for 65 m hub height turbines with 33 m blades, 76% of bat carcasses will fall within the first 0-30 m radius of the turbine. It can therefore be assumed that for the smaller turbines at Ffynnon Oer Wind Farm, with 58 m hub height and 35 m blades, 100% of bats would be expected to fall within this radius. As such, a 25 m radius is considered to be a suitable search area based on the size of the operational turbines.

#### Using Persistence and Efficiency Data

15.17.28 Analysis of bat data using the carcass search result combined with the persistence and searcher efficiency trials has been undertaken following methodology as outlined in guidance<sup>22</sup> (see Appendix 2 of the guidance, Methodology B for when searches have been conducted less frequently than daily).

15.17.29 Data analysis has not been undertaken on bird carcasses as, due to the size of the turbines and the lack of research to provide consistent patterns, there are less defined standard parameters available for bird throw than there are for bats. All bird carcass data is provided in context in the results section (Sub-section 15.18) in conjunction with the searcher efficiency and persistence rates, but the modelling on this data has not been undertaken.

#### **Ecobat Analysis**

15.17.30 To satisfy NRW's request (see Table 15.3), analysis of bat data using Ecobat<sup>44</sup> has been included in the ES Addendum. Following recommended guidance<sup>35</sup>, survey data was put into the online tool Ecobat to provide a measure of relative bat activity within the site boundary compared with bat activity at other nearby sites using Ecobat's internal database. Bat activity levels can then be compared with other sites located within a similar habitat within South Wales. The Ecobat tool uses reference tables to generate a percentile rank for each night of activity recorded (Table 1 in NatureScot guidance<sup>22</sup>) and thus quantifies the levels of bat activity at a site relative to surrounding areas.

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<sup>44</sup> ECOBAT. Available at: <https://mammal.org.uk/current-research/bat-survey-tools> [Accessed: 02/02/2026]

- 15.17.31 Final outputs from bat data analysis were manipulated in R statistical software<sup>45</sup> to match the Ecobat proforma template required for use with the Ecobat tool. For Ecobat analysis a geographical filter is selected at upload using options including: "County", "Region" or "Country" within the Ecobat proforma. Here, the geographical filter "Region" was used to select South Wales as the area for comparison. The time filter "+/- 1 month" was also applied. This instructs Ecobat to compare bat activity to data collected in South Wales within one month of (before and after) each survey date.
- 15.17.32 The overall risk for each species or species group present at the site was calculated on a seasonal basis as the product of (1) an activity score, based on the relative activity percentile determined from Ecobat (see Table 1 in guidance<sup>22</sup>), and (2) a project risk score, calculated based on the size of the project and the suitability of habitat at the site for bats (see Table 3a in guidance<sup>22</sup>). Categories associated with overall risk scores are presented in Table 3b in NatureScot (2021)<sup>22</sup> guidance.

## Limitations

- 15.17.33 There were limiting factors to survey methodologies, details of which are provided in this section. Overall, it is not considered that these limitations affect the assessment of IEFs, for which reasoning is provided below.

### *Bat Static Activity Surveys*

- 15.17.34 Across the bat static activity survey period, five nights were removed from analysis due to unsuitable weather conditions (wind speed above 8 m/s and/or temperature below 10°C), namely: 25th April, 4th and 5th May, 4th July and 27th September 2025. Additionally, weather data was not available for three nights during the spring deployment (3rd, 4th and 7th May 2025) and one night during the autumn deployment (24th September 2025). Additionally, detectors 4, 5 and 10 were deployed on 23rd April 2025 two days after other detectors due to changes in deployment location and therefore missed two

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<sup>45</sup> R. Available at: <https://www.r-project.org/> [Accessed: 02/02/2026]

days of survey effort. Given that most of the nights removed due to unsuitable weather (three nights), for which weather data was not available (three nights) or for delayed deployment (two nights), occurred during the spring deployment (which had 16 nights of survey effort), the omission of these dates is not considered to be a limitation to the overall analysis.

- 15.17.35 During the summer deployment, detector 7 malfunctioned and did not record any data, however this detector recorded fully during the spring and autumn deployments. Overall, detector 7 recorded the lowest number of passes of all detectors in spring, and the fourth highest passes in autumn. A total of 86.8% (275 passes) of the bat passes recorded by detector 7 were identified as common pipistrelle, soprano pipistrelle or *Pipistrellus* species with the remaining 13.2% of passes by *Myotis* species (36 passes) and brown long-eared bat (six passes). As there is relatively high activity of *Pipistrellus* species, moderate activity of *Myotis* species and low activity of brown long-eared bat within the site, it is considered that any bat passes that would have been recorded at detector 7 during summer would not affect the overall results of the bat activity analysis. As such, this is unlikely to have any overall impact on the assessment of bat species for the Proposed Life Extension.

#### **Bat Carcass Searches**

- 15.17.36 During the bat carcass searches, it was not possible to visit the selected turbine locations during every survey visit due to movement of livestock. Fields which held livestock during the bat carcass searches were avoided for health and safety and animal welfare reasons as searches involve the use of sniffer dogs. It was noted that T16 was not operational during 11 of the 13 survey visits. Therefore, on some occasions alternative turbines were selected where possible. Although alternative turbines were occasionally searched, the selected carcass search turbines were searched during at least eight of the 13 visits and therefore the carcass data analysis is considered to be sufficient to provide a robust assessment.

#### **Ornithology Surveys**

- 15.17.37 Weather conditions during the BBS and breeding raptor surveys were not always optimal, with a wind speed of Beaufort Force (BF) 5 reported during visits in April, June and July, and occasional heavy showers also reported. However, visibility was not compromised and was either good or excellent on all survey visits. Although all BBS and breeding raptor survey visits should be completed during good weather conditions, this was not always possible due to the generally high wind speeds at this site. The average wind speed recorded at the site between 23rd April and 30th September 2025 was 6.5

m/s, with an average wind speed of 6.7 m/s in June and 7 m/s in July (all BF 4). Therefore, it is considered that conducting some survey visits in higher wind speed than recommended in guidance is reflective of the variable weather conditions experienced at this site.

- 15.17.38 Parts of the BBS area and breeding raptor survey area to the north and south of the site which fell outside of the site boundary and where landowner permission to access the land was not in place, were surveyed via short watches from the edge of the site boundary and public rights of way. As far as possible these watches overlooked all areas within the relevant survey buffers.

### *Ecobat Analysis*

- 15.17.39 Ecobat has been intermittently available since late 2018 and no additional data has been added since the database went offline in early 2022. As such, for some species the relative activity level may be skewed by small sample size, depending on how representative the data from the comparison sites are. Conversely, Ecobat does not allow deletion of data once uploaded, so if analysis is run multiple times for a site due to updates or corrections to the data, each submission of the data is treated as new records of bats and is added to the reference range, potentially leading to a large overestimation of the number of bat records which a given dataset is compared to.
- 15.17.40 Additionally, Ecobat does not allow for the removal of data from nights where bad weather or technical issues were encountered. It therefore assumes the first and last date in a dataset in which a bat call is detected define the date range for analysis. If a bat call is not detected on the first and/or last nights of effort, then there is an overestimation of bat activity as recorded activity is averaged over fewer nights. In contrast, if there are issues associated with weather or technical problems mid-way through a deployment, then bat activity is underestimated as recorded activity is averaged over more nights of assumed survey effort than were actually conducted. In the survey data set, there were bat passes on the first and last nights of expected effort, but there were also dates that required removal from the analysis due to bad weather/ technical issues.
- 15.17.41 The Ecobat outputs are often contradictory to themselves with different values and percentages for the same data point shown in different tables with no reasoning and tables which are now mis-identified. Despite the ongoing errors, Ecobat remains the best practice method of comparing numbers of passes across regions.

15.17.42 Natural Power are in regular ongoing communication with Ecobat regarding potential solutions. However, there is the potential that the site data that is being used as a comparison for the relative activity index is not accurate or comparable. As such, comparison results derived from Ecobat should be treated with caution. This is reflected within the impact assessment in the ES Addendum.

## 15.18 Survey Results

### Desk Study

#### Data Search

15.18.1 The data search provided records of the protected non-avian species listed in Table 15.9 and birds of conservation concern listed in Table 15.10. SEWBRc also returned records of 15 plants and 44 invertebrates, for which details, alongside full details of all species records returned, are provided in Appendix A15.2.

**Table 15.9: Protected non-avian species within a 2 km buffer of the site boundary (extended to 10 km for bats) for which records were returned during the data search**

| Bats                                                                                                                                                                                                                                                                                                                                                                           | Other mammals                                                                                                                                      | Reptiles and amphibians                                                                                                        | Fish                                                                                                                   |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>• Brandt's</li> <li>• Brown long-eared</li> <li>• Common pipistrelle</li> <li>• Daubenton's</li> <li>• Greater horseshoe</li> <li>• Leisler's</li> <li>• Lesser horseshoe</li> <li>• Nathusius' pipistrelle</li> <li>• Natterer's</li> <li>• Noctule</li> <li>• Serotine</li> <li>• Soprano pipistrelle</li> <li>• Whiskered</li> </ul> | <ul style="list-style-type: none"> <li>• Badger</li> <li>• Brown hare</li> <li>• European hedgehog*</li> <li>• Otter</li> <li>• Polecat</li> </ul> | <ul style="list-style-type: none"> <li>• Adder</li> <li>• Common lizard</li> <li>• Common toad</li> <li>• Slow worm</li> </ul> | <ul style="list-style-type: none"> <li>• Atlantic salmon</li> <li>• Brown/Sea trout</li> <li>• European eel</li> </ul> |

Source: SEWBRc and NBN<sup>32</sup>; \*Species records located within the site boundary

Table 15.10: Birds of conservation concern most likely to be associated with habitat within and immediately surrounding the site, within a 10 km buffer of the site boundary for which records were returned during the data search

| Non-passerines                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Passerines                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>• Barnacle goose</li> <li>• White-fronted goose</li> <li>• Whooper swan</li> <li>• Black grouse</li> <li>• Grey partridge</li> <li>• Quail</li> <li>• Black-headed gull</li> <li>• Common gull</li> <li>• Great black-backed gull</li> <li>• Herring gull*</li> <li>• Lesser black-backed gull*</li> <li>• Osprey</li> <li>• Honey buzzard</li> <li>• Golden eagle</li> <li>• Goshawk*</li> <li>• Marsh harrier</li> <li>• Hen harrier</li> <li>• Red kite*</li> <li>• Barn owl</li> <li>• Short-eared owl</li> <li>• Kestrel*</li> <li>• Merlin</li> <li>• Hobby</li> <li>• Peregrine</li> </ul> | <ul style="list-style-type: none"> <li>• Nightjar</li> <li>• Swift*</li> <li>• Cuckoo</li> <li>• Green woodpecker</li> <li>• Magpie*</li> <li>• Rook</li> <li>• Hooded crow</li> <li>• Coal tit</li> <li>• Marsh tit*</li> <li>• Skylark*</li> <li>• House martin</li> <li>• Wood warbler</li> <li>• Willow warbler*</li> <li>• Grasshopper warbler</li> <li>• Garden warbler</li> <li>• Whitethroat</li> <li>• Firecrest</li> <li>• Goldcrest*</li> <li>• Starling*</li> <li>• Song thrush*</li> <li>• Mistle thrush*</li> <li>• Redwing</li> <li>• Fieldfare*</li> <li>• Ring ouzel*</li> <li>• Spotted flycatcher</li> <li>• Pied flycatcher</li> <li>• Black redstart*</li> </ul> |

| Non-passerines | Passerines                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                | <ul style="list-style-type: none"> <li>• Redstart</li> <li>• Whinchat</li> <li>• Wheatear*</li> <li>• Dipper</li> <li>• Tree sparrow</li> <li>• House sparrow</li> <li>• Dunnock</li> <li>• Yellow wagtail</li> <li>• Grey wagtail</li> <li>• White/pied wagtail*</li> <li>• Meadow pipit*</li> <li>• Tree pipit</li> <li>• Chaffinch*</li> <li>• Brambling</li> <li>• Hawfinch</li> <li>• Bullfinch*</li> <li>• Greenfinch</li> <li>• Twite</li> <li>• Linnet*</li> <li>• Common redpoll</li> <li>• Lesser redpoll</li> <li>• Crossbill</li> <li>• Reed bunting*</li> </ul> |

Source: SEWBRc, RSPB and NBN<sup>32</sup>; \*Species records located within the site boundary

### *Statutory, National and Locally Designated Sites of Nature Conservation*

15.18.2 A single statutory designated site was identified within the search area as shown on Figure 15.5: Statutory Designated Sites - Coedydd Nedd a Mellte SAC, designated for sessile oak woods in 2004. Coedydd Nedd a Mellte SAC lies approximately 9.6 km north-east of the site boundary. No other statutory

or non-statutory designated sites were identified within the search areas defined in Sub-section 15.17.

## Ecology Surveys

### Static Activity Surveys

#### Bat Passes

15.18.3 A total of 9,640 bat passes were recorded during the static activity surveys, of which 73.7% were identified as common pipistrelle and 17.2% of passes identified as *Myotis* species. Less than 10% of overall bat activity recorded comprised of passes by six other species/species groups.

15.18.4 Over half (55.1%) of all passes were recorded during the summer deployment period, with more activity recorded during the autumn deployment period than during the spring deployment period.

15.18.5 A summary of bat passes per species in relation to each deployment period is provided in Table 15.11. Further details of bat passes are provided in Appendix A15.2, with full analysis summaries available on request.

Table 15.11: Bat passes per species and deployment period

| Species/<br>species<br>group | Deployment period |        |        | Total no.<br>of passes | Percentage<br>of total<br>passes (%) |
|------------------------------|-------------------|--------|--------|------------------------|--------------------------------------|
|                              | Spring            | Summer | Autumn |                        |                                      |
| Common pipistrelle           | 1,246             | 4,456  | 1,403  | 7,105                  | 73.7                                 |
| Soprano pipistrelle          | 29                | 475    | 97     | 601                    | 6.2                                  |
| Nathusius' pipistrelle       | 21                | 89     | 2      | 112                    | 1.2                                  |
| <i>Pipistrellus</i> sp.      | 10                | 86     | 0      | 96                     | 1.0                                  |
| <i>Myotis</i> sp.            | 282               | 196    | 1,177  | 1,655                  | 17.2                                 |

| Species/<br>species<br>group                  | Deployment period |        |        | Total no.<br>of passes | Percentage<br>of total<br>passes (%) |
|-----------------------------------------------|-------------------|--------|--------|------------------------|--------------------------------------|
|                                               | Spring            | Summer | Autumn |                        |                                      |
| Brown long-eared                              | 4                 | 3      | 52     | 59                     | 0.6                                  |
| Leisler's                                     | 2                 | 7      | 0      | 9                      | 0.1                                  |
| Lesser horseshoe                              | 3                 | 0      | 0      | 3                      | 0.0                                  |
| Total no. of passes                           | 1,597             | 5,312  | 2,731  | 9,640                  | -                                    |
| Percentage of total passes (%)                | 16.6              | 55.1   | 28.3   | -                      | 100.0                                |
| Survey effort (no. nights detectors deployed) | 16                | 11     | 9      | -                      | -                                    |

Source: Natural Power

15.18.6 Overall, detector 10 recorded the highest number of bat passes (38.8%), followed by detector 16 (19.4%) and detector 5 (11.0%). This corresponds with the highest numbers of bat passes recorded for common pipistrelle across all detectors (2,757 at detector 10; 1,662 at detector 16; and 960 at detector 5). However, the highest number of bat passes recorded for *Myotis* species was at detector 3 (746), followed by detector 10 (420).

15.18.7 Detectors 10, 16 and 5 were located in the south of the site, with detector 10 adjacent to woodland, detector 16 in open grassland approximately 10 m from a stream, and detector 5 adjacent to drystone wall and open grassland (see Table 15.7). Detector 3 however was located in open grassland with the nearest suitable bat habitat feature, drystone wall, approximately 250 m away.

15.18.8 The number of passes recorded across detectors for soprano pipistrelle and Nathusius' pipistrelle were fairly similar, with the exception of a higher number of passes at detector 10 (449 and 75 respectively). Similarly, up to eight passes were recorded across most detectors for brown long-eared bat, with 24 passes recorded at detector 3. Leisler's bat was recorded occasionally at five of eight of the detectors, with all lesser horseshoe bat passes recorded at detector 5.

15.18.9 A summary of bat passes per species in relation to each detector is provided in Table 15.12.

**Table 15.12: Bat passes per species and detector**

| Species/<br>species group         | Detector ID |     |     |       |     |       |     |       | Total<br>no. of<br>passes |
|-----------------------------------|-------------|-----|-----|-------|-----|-------|-----|-------|---------------------------|
|                                   | 1           | 3   | 4   | 5     | 7   | 10    | 13  | 16    |                           |
| Common<br>pipistrelle             | 498         | 143 | 373 | 960   | 262 | 2,757 | 450 | 1,662 | 7,105                     |
| Soprano<br>pipistrelle            | 26          | 14  | 12  | 22    | 12  | 449   | 6   | 60    | 601                       |
| Nathusius'<br>pipistrelle         | 8           | 1   | 0   | 13    | 0   | 75    | 4   | 11    | 112                       |
| <i>Pipistrellus</i> sp.           | 6           | 0   | 8   | 14    | 1   | 29    | 1   | 37    | 96                        |
| <i>Myotis</i> sp.                 | 78          | 746 | 14  | 47    | 36  | 420   | 223 | 91    | 1,655                     |
| Brown long-<br>eared              | 9           | 24  | 2   | 0     | 6   | 8     | 6   | 4     | 59                        |
| Leisler's                         | 1           | 0   | 1   | 2     | 0   | 3     | 0   | 2     | 9                         |
| Lesser<br>horseshoe               | 0           | 0   | 0   | 3     | 0   | 0     | 0   | 0     | 3                         |
| Total no. of<br>passes            | 626         | 928 | 410 | 1,061 | 317 | 3,741 | 690 | 1,867 | 9,640                     |
| Percentage of<br>total passes (%) | 6.5         | 9.6 | 4.3 | 11.0  | 3.3 | 38.8  | 7.2 | 19.4  | 100.0                     |

Source: Natural Power

#### Bat Activity Index

15.18.10 Similar to bat passes across detectors, overall BAI is highest at detector 10 (110.0), followed by detector 16 (51.9) and detector 5 (31.2). This is also the case for common pipistrelle, which is highest at detector 10 (81.1), followed by detector 16 (46.2) and detector 5 (28.2).

15.18.11 The highest BAI for soprano pipistrelle and Nathusius' pipistrelle was also at detector 10. Whereas the highest BAI for *Myotis* species and brown long-eared bat were at detector 3, with the highest BAI for Leisler's at detector 5.

15.18.12 A summary of BAI per species in relation to each detector is provided in Table 15.13.

Table 15.13: Bat Activity Index per species and detector

| Species/<br>species<br>group | Detector ID |      |      |      |      |       |      |      |
|------------------------------|-------------|------|------|------|------|-------|------|------|
|                              | 1           | 3    | 4    | 5    | 7    | 10    | 13   | 16   |
| Common pipistrelle           | 13.8        | 4.0  | 11.0 | 28.2 | 10.5 | 81.1  | 12.5 | 46.2 |
| Soprano pipistrelle          | 0.7         | 0.4  | 0.4  | 0.6  | 0.5  | 13.2  | 0.2  | 1.7  |
| Nathusius' pipistrelle       | 0.2         | 0.0  | 0.0  | 0.4  | 0.0  | 2.2   | 0.1  | 0.3  |
| <i>Pipistrellus</i> sp.      | 0.2         | 0.0  | 0.2  | 0.4  | 0.0  | 0.9   | 0.0  | 1.0  |
| <i>Myotis</i> sp.            | 2.2         | 20.7 | 0.4  | 1.4  | 1.4  | 12.4  | 6.2  | 2.5  |
| Brown long-eared             | 0.3         | 0.7  | 0.1  | 0.0  | 0.2  | 0.2   | 0.2  | 0.1  |
| Leisler's                    | 0.0         | 0.0  | 0.0  | 0.1  | 0.0  | 0.1   | 0.0  | 0.1  |
| Lesser horseshoe             | 0.0         | 0.0  | 0.0  | 0.1  | 0.0  | 0.0   | 0.0  | 0.0  |
| Total BAI                    | 17.4        | 25.8 | 12.1 | 31.2 | 12.7 | 110.0 | 19.2 | 51.9 |

Source: Natural Power

**Emergence Activity (in relation to Sunset and Sunrise)**

15.18.13 A review of bat activity in relation to sunset and sunrise was undertaken to identify behaviour indicative of roosting in proximity to the detectors. Details of passes recorded either 30 minutes after sunset or 30 minutes before sunrise for each species are provided in Table 15.14. Of all the bat passes recorded during the bat static activity surveys, 98 (1.02%) were recorded at sunset or sunrise. Most passes at sunset or sunrise (90%) were by common pipistrelle. Five or fewer passes were recorded at sunset for soprano pipistrelle, Nathusius' pipistrelle, unidentified *Pipistrellus* species and *Myotis* species. However, three passes recorded at sunset comprised 2.68% of all Nathusius' pipistrelle passes.

Table 15.14: Bat passes in relation to sunset and sunrise

| Species/<br>species<br>group      | Sunset* | Between* | Sunrise* | Total no.<br>passes at<br>sunset/<br>sunrise | Percentage<br>of total<br>passes at<br>sunset/<br>sunrise (%) |
|-----------------------------------|---------|----------|----------|----------------------------------------------|---------------------------------------------------------------|
| Common<br>pipistrelle             | 86      | 7,017    | 2        | 88                                           | 1.24                                                          |
| Soprano<br>pipistrelle            | 5       | 596      | 0        | 5                                            | 0.83                                                          |
| Nathusius'<br>pipistrelle         | 3       | 109      | 0        | 3                                            | 2.68                                                          |
| <i>Pipistrellus</i> sp.           | 1       | 95       | 0        | 1                                            | 1.04                                                          |
| <i>Myotis</i> sp.                 | 1       | 1,654    | 0        | 1                                            | 0.06                                                          |
| Brown long-<br>eared              | 0       | 59       | 0        | 0                                            | 0.00                                                          |
| Leisler's                         | 0       | 9        | 0        | 0                                            | 0.00                                                          |
| Lesser<br>horseshoe               | 0       | 3        | 0        | 0                                            | 0.00                                                          |
| Total no. passes                  | 96      | 9,542    | 2        | 98                                           | 1.02                                                          |
| Percentage of<br>total passes (%) | 1.00    | 98.98    | 0.02     | 1.02                                         | -                                                             |

Source: Natural Power; \*Sunset = 30 minutes after sunset, between = between sunset and sunrise, and sunrise = 30 minutes before sunrise.

15.18.14 Most bat passes that occurred within 30 minutes of sunset or sunrise were recorded at detector 10 (67), with 16 recorded at detector 16 and one to four passes recorded at all other detectors.

15.18.15 A summary of bat passes within 30 minutes of sunset and sunrise at each detector is provided in Table 15.15.

Table 15.15: Bat passes recorded within 30 minutes of sunset or sunrise

| Species/species<br>group | Season | Pass time<br>(sunrise/sunset) | Detector ID | Total no.<br>passes |
|--------------------------|--------|-------------------------------|-------------|---------------------|
| Common pipistrelle       | Spring | Sunset                        | 4           | 4                   |
|                          |        |                               | 5           | 1                   |

|                        |        |        |    |    |
|------------------------|--------|--------|----|----|
|                        |        |        | 10 | 12 |
|                        |        |        | 13 | 1  |
|                        |        |        | 16 | 10 |
|                        |        |        | 10 | 7  |
|                        |        |        | 16 | 1  |
|                        |        |        | 1  | 1  |
|                        |        |        | 3  | 2  |
|                        |        |        | 5  | 1  |
|                        |        |        | 7  | 2  |
|                        |        |        | 10 | 32 |
|                        |        |        | 16 | 1  |
|                        |        |        | 10 | 2  |
|                        |        |        | 16 | 1  |
|                        |        |        | 7  | 1  |
|                        |        |        | 16 | 1  |
| Soprano pipistrelle    | Spring | Sunset | 16 | 1  |
|                        | Autumn | Sunset | 3  | 1  |
| Nathusius' pipistrelle | Spring | Sunset | 10 | 2  |
|                        |        |        | 16 | 1  |
| Pipistrellus sp.       | Spring | Sunset | 10 | 1  |
| Myotis sp.             | Spring | Sunset | 10 | 1  |

Source: Natural Power

#### Activity in relation to Wind Speed

15.18.16 Of the 9,640 bat passes recorded, 2,175 were recorded during wind speeds below 3 m/s, the minimum cut-in speed of the turbines at Ffynnon Oer Wind Farm. Of the 7,465 bat passes recorded during wind speed over 3 m/s, 3,098 were recorded above 5 m/s. Figure 15.18.1 shows the mean nightly wind speed in relation to cut-in speed of the turbines, which highlights that bat activity within the site continued up to 8 m/s and did not markedly decrease above 5 m/s.

Source: Natural Power

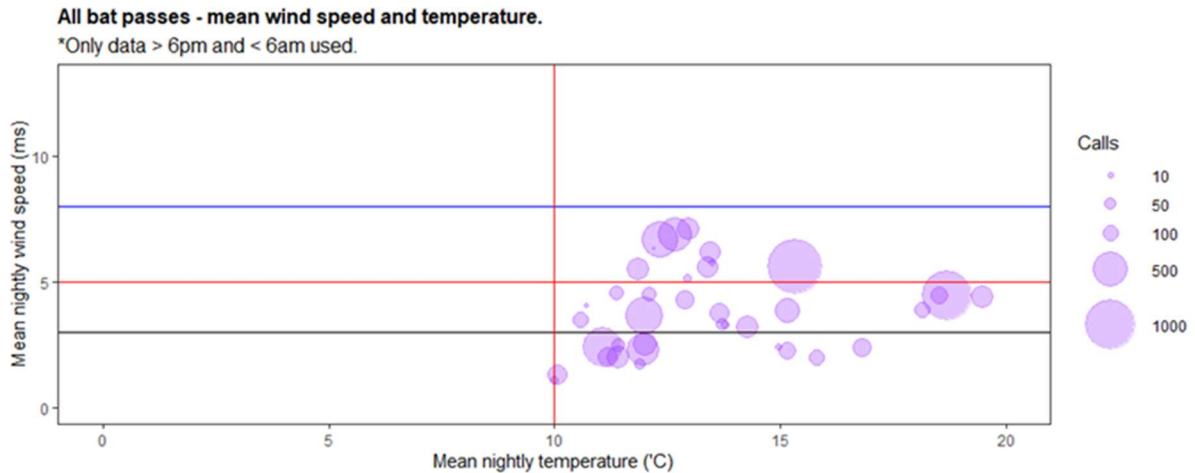


Figure 15.18.1: Bubble plot showing bat passes\* in relation to mean wind speed and temperature at dusk. Red lines indicate the recommended maximum wind speed and minimum temperature, the blue line the adjusted level used for wind speed in the analysis based on the conditions on site and the black line at the minimum cut in speed of the turbines (cut in wind speed: 3.0-3.5 m/s).

### **Bat Carcass Searches**

15.18.17 Dates for all bat carcass searches (including efficiency and persistence trials) are shown in Appendix A15.2.

15.18.18 A single non-efficiency trial bat carcass was retrieved at Ffynnon Oer Wind Farm during the 13-week search period on 8th August 2025 at T3 (see Figure 15.6: Carcass Search Results 2025). The bat carcass, identified to genus level as a *Pipistrellus* sp.. The bat carcass was not identified to species level, however, it was identified as a small bat and is therefore considered to be either a common pipistrelle or a soprano pipistrelle.

15.18.19 Nine of the 10 persistence trial carcasses lasted between one and nine days before either decomposition (burying beetles) or predation (carrion crow and fox), with the remaining carcass persisting for the full trial period (36 days) until it was collected by the surveyor. Average persistence of the carcasses was six days.

15.18.20 During the searcher efficiency trials, 100% of all bat carcasses (10/10) were retrieved by the dog and handler.

15.18.21 Using the statistical analysis methodology outlined in NatureScot (2021)<sup>22</sup> guidance (Appendix 2, Methodology B for when searches have been conducted less frequently than daily), a single carcass retrieved at Ffynnon Oer Wind Farm results in a final assessment of 0.05 bat fatalities per day (4.65 bats in total) between July and September 2025 (inclusive).

15.18.22 Results of the bat carcass searches are shown on Figure 15.6 and further details provided in Appendix A15.2.

### Ecobat Analysis

15.18.23 Bat relative activity indices were calculated by Ecobat and are provided as both the maximum percentile (as per guidance<sup>22</sup>) and the median percentile (level of activity per night), which takes into account that specific detectors had different effort depending on the number of nights that they were operating. Table 15.16 below shows the bat relative activity category calculated for each species across the site during each season.

15.18.24 Using information provided within guidance<sup>22</sup> an overall risk assessment can be made in relation to the site characteristics (size of site and bat habitat suitability) and relative bat activity. Based on criteria set out in guidance<sup>22</sup>, Ffynnon Oer Wind Farm is considered to be a medium size (categorized from Table 3a in guidance<sup>22</sup>). Habitat suitability for bats is considered to be low in line with habitat descriptions in guidance<sup>22</sup> due to the open nature of habitats at the site, limited prominent linear features and limited potential roost features. These criteria provide an overall site risk level of 2. This risk level of the site, combined with the level of bat activity identified from the percentile of relative activity provided in Ecobat (categorised from Table 1 from guidance<sup>22</sup>) provides a classification of overall risk to species or species group and is provided in Table 15.16 below.

**Table 15.16: Relative activity and risk assessment per species and season (Overall risk is classed as low (green), medium (amber) and high (red))**

| Species/ species group | Season | Median relative activity category | Median overall risk category |
|------------------------|--------|-----------------------------------|------------------------------|
| Common pipistrelle     | Spring | Low                               | Low                          |
|                        | Summer | Low                               | Low                          |
|                        | Autumn | Low                               | Low                          |
| Soprano pipistrelle    | Spring | High                              | Medium                       |
|                        | Summer | Low                               | Low                          |
|                        | Autumn | Low-moderate                      | Low                          |
| Nathusius' pipistrelle | Spring | Low-moderate                      | Low                          |
|                        | Summer | Low-moderate                      | Low                          |
|                        | Autumn | High                              | Medium                       |
| Pipistrellus sp.       | Spring | Moderate-high                     | Medium                       |

| Species/ species group  | Season | Median relative activity category | Median overall risk category |
|-------------------------|--------|-----------------------------------|------------------------------|
|                         | Summer | Moderate                          | Medium                       |
|                         | Autumn | -                                 | -                            |
| <b>Myotis sp.</b>       | Spring | Low-moderate                      | Low                          |
|                         | Summer | Low-moderate                      | Low                          |
|                         | Autumn | Low                               | Low                          |
| <b>Brown long-eared</b> | Spring | High                              | Medium                       |
|                         | Summer | High                              | Medium                       |
|                         | Autumn | Low-moderate                      | Low                          |
| <b>Leisler's</b>        | Spring | High                              | Medium                       |
|                         | Summer | Moderate-high                     | Medium                       |
|                         | Autumn | -                                 | -                            |
| <b>Lesser horseshoe</b> | Spring | High                              | Medium                       |
|                         | Summer | -                                 | -                            |
|                         | Autumn | -                                 | -                            |

## Ornithology Surveys

### *Breeding Bird Surveys*

15.18.25 A total of 20 species were recorded during the BBS in 2025. No wader species were recorded during the BBS however, 12 species of conservation concern<sup>25</sup> were recorded, namely: cuckoo, herring gull, lesser black-backed gull, goshawk, red kite, coal tit, skylark, willow warbler, song thrush, mistle thrush, wheatear and meadow pipit. Of these species, breeding territories were identified for six.

15.18.26 A summary of the number of breeding territories identified for each species are provided in Table 15.17 and territories are shown on Figure 15.7: Breeding Bird Territories 2025. Records of raptor species are discussed alongside records from the breeding raptor surveys.

Table 15.17: Breeding territories identified in 2025

| Species        | No. territories within site boundary | No. territories within 500 m survey buffer | Total no. territories |
|----------------|--------------------------------------|--------------------------------------------|-----------------------|
| Cuckoo         | 0                                    | 1                                          | 1                     |
| Skylark        | 12                                   | 1                                          | 13                    |
| Willow warbler | 0                                    | 2                                          | 2                     |
| Song thrush    | 0                                    | 1                                          | 1                     |
| Wheatear       | 1                                    | 0                                          | 1                     |
| Meadow pipit   | 18                                   | 0                                          | 18                    |

Source: Natural Power

### *Breeding Raptor Surveys*

15.18.27 Two target species were recorded during the breeding raptor surveys in 2025, namely goshawk and red kite.

15.18.28 A total of three records of goshawk were returned during the bird surveys, one of a male in flight during the BBS on 14th April 2025, and two records, one of a single male and one of a single female in the north-east of the site during the breeding raptor survey visit on 23rd April 2025.

15.18.29 There were also three records of red kite during the bird surveys, two of which were records of a single foraging adult returned during the BBS on 10th May and 3rd June 2025. The third was an incidental record of an adult present just outside the 2 km survey buffer to the north-east of the site during a breeding raptor survey visit on 26th May 2025.

15.18.30 There is suitable breeding habitat for both goshawk and red kite in the area surrounding the site. No nests were identified within the 2 km survey buffer, and no breeding behaviour was observed. However, it is considered likely that both goshawk and red kite bred within the wider area.

15.18.31 A single secondary raptor species was also recorded, with seven buzzard records returned in total (three during the BBS and four during the breeding raptor surveys). Notably, a single bird was observed calling in flight above plantation to north-east of site on 21st April, however no nests were identified within the breeding raptor survey area.

15.18.32 Results of the Breeding Raptor Surveys are shown in Figure 15.8: Breeding Raptor Survey Results 2025.

### *Bird Carcass Searches*

15.18.33 Three bird carcasses and three feather spot records were identified during the carcass searches completed between 3rd July and 25th September 2025. All three bird carcasses were identified as passerine species<sup>46</sup>:

- A thrush species (probable song thrush) recovered at T3 on 1st August;
- A stonechat recovered at T4 on 1st August; and
- A pipit species (probable tree pipit) recovered at T5 on 11th September.

15.18.34 All three feather spot records were identified as corvid (crow) species. One was identified on 3rd July at T10, with the other two records identified at T15 on 8th August and 21st August.

15.18.35 Further details of carcasses recovered are provided in Appendix A15.2.

## 15.19 Assessment of Potential Effects

15.19.1 The EclA has been undertaken in accordance with CIEEM guidelines<sup>20</sup> with establishment of baseline ecological and ornithological conditions for Ffynnon Oer Wind Farm, and identification of IEFs through a combination of field surveys and a desk-based review. Each identified IEF is assessed separately, with consideration of impact extent, magnitude, duration, timing, frequency and reversibility, along with assessment of the level of confidence in the impact assessment for the determination of significance of effects.

### Predicted Effects

15.19.2 Potential effects of the Proposed Life Extension on species and habitats are considered in relation to continued operation. Decommissioning was discussed within the Original ES<sup>1</sup> with a Decommissioning Plan to be implemented under Planning Condition 6 of the current consent. Decommissioning will be completed regardless of the operational life of Ffynnon Oer Wind Farm, however, the potential effects of decommissioning are provided again in the ES Addendum to provide context in relation to the

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<sup>46</sup> Where carcasses were found to be considerably decomposed, they were identified to genus rather than species level.

Proposed Life Extension. Research<sup>47,48,49</sup> has identified that impacts of disturbance and/or displacement of birds from wind developments are greatest during the construction phase, reducing once the turbines are operational and species have habituated to their presence.

15.19.3 As the purpose of the Proposed Life Extension is for the continued operation of the existing Ffynnon Oer Wind Farm, renewable energy will continue to be produced without additional construction phase disturbance and/or displacement to habitats and species. As such, predicted effects of construction are not discussed in the ES Addendum. Therefore, further displacement and/or disturbance is not considered to be a potential effect in relation to continued operation in this ES Addendum, with disturbance and/or displacement considered in relation to decommissioning only.

15.19.4 The predicted effects of the Proposed Life Extension in relation to ongoing operation are:

- Direct impacts to bat and bird species associated with mortality from collision with turbines.

15.19.5 The predicted effects of the Proposed Life Extension in relation to decommissioning are:

- Direct impacts to habitats and species associated with habitat loss;
- Direct impacts to species associated with destruction of nests or resting places;
- Indirect impacts to habitats and species associated with dust, siltation, leaks and spillages (pollution) during works required for decommissioning; and
- Indirect impacts to species associated with disturbance and/or displacement.

15.19.6 Embedded mitigation measures are proposed at the outset of the Proposed Life Extension, to reduce impacts associated with continued operation and decommissioning, as outlined herein.

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<sup>47</sup> Whitfield, D.P., Green, M & Fielding, A.H. (2010). *Are breeding Eurasian curlew Numenius arquata displaced by wind energy developments?* Natural Research Projects Ltd. Banchory, Scotland

<sup>48</sup> Douglas, D., Bellamy, P. & Pearce-Higgins, J. (2011). *Changes in the abundance and distribution of upland breeding birds at an operational wind farm.* Bird Study 58, Issue 1, 2011

<sup>49</sup> Bladwell S, Noble DG, Taylor R, Cryer J, Galliford H, Hayhow DB, Kirby W, Smith D, Vanstone A, Wotton SR (2018) The state of birds in Wales 2018. The RSPB, BTO, NRW and WOS. RSPB Cymru, Cardiff.

## Embedded Mitigation

### *Operation*

#### Track Maintenance

15.19.7 Tracks present within the wind farm will not require widening or upgrades as a result of the life extension. Maintenance of the existing track surfaces due to wear and tear caused by routine wind farm traffic will not involve any changes to track width or location. The maintenance regime involves scraping back any areas of soil and grass from the existing track surface, as this impedes traction for larger vehicles. Material is then imported to site, laid out and compacted to make access tracks manoeuvrable. This regime has been carried out periodically at Ffynnon Oer Wind Farm since it became operational, and this same maintenance regime will continue for the extended operational period proposed.

15.19.8 A similar regime is conducted when maintenance is required to existing crane pads and hard standing areas, material is imported to site, laid out directly on the area where maintenance is required and compacted in situ. Following completion of the works, surplus material is removed from crane pads and hard standing areas. Specialist vehicles are used to move imported material around site and to lay new material onto existing access roads, crane pads and hardstanding areas (no excavation works required). As a result, there will be no additional land take and therefore no impacts to habitats or protected species associated with this work.

#### Operational Management

15.19.9 All maintenance works and site checks are undertaken following procedures outlined in operational monitoring and emergency response plans. The operational monitoring plan also includes protocol in relation to hazards such as fuel spills.

### *Decommissioning*

15.19.10 Good practice measures, similar to those that would be undertaken during the construction stage of a wind farm, will be followed during decommissioning as per NatureScot (2016) guidance for the restoration and decommissioning of wind farms<sup>50</sup>. New (or Welsh specific) guidance

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<sup>50</sup> NatureScot (2016). Guidance - Decommissioning and Restoration Plans for wind farms - February 2016. Version 2. Available at: <https://www.nature.scot/doc/guidance-decommissioning-and-restoration-plans-wind-farms-february-2016>

available at the decommissioning phase would be adopted where appropriate. Under Planning Condition 6 of the current consent, a Decommissioning Plan will be drafted for agreement by consultees prior to commencement of decommissioning. The document will be considered a live document and will be updated throughout decommissioning and will include:

- Measures to safeguard habitats and species to be implemented prior to decommissioning; and
- Details of restoration measures to be implemented following the removal of wind farm infrastructure.

## Feature Assessment

15.19.11 On the basis of the description of the ecological baseline and the definitions provided in Table 15.4 and Table 15.6, a summary of IEFs is provided in Table 15.18, together with a summary of conservation status, legislation and guidance.

15.19.12 In identifying IEFs, consideration has been given to the existence of pathways for predicted effects to occur in relation to the continued operation of the Proposed Life Extension. This includes direct impacts to bat and bird species associated with collision mortality. Where no significant effects are considered likely following the application of embedded mitigation, this is specified and the feature is not considered an IEF requiring EclA. Additionally, as outlined in Sub-section 15.14, the following features are not considered to be IEFs in the context of the Proposed Life Extension: Coedydd Nedd a Mellte SAC, protected mammals (excluding bats) and habitats.

15.19.13 Features for which predicted effects are considered to be associated with the decommissioning stage of the Proposed Life Extension (not associated with collision risk) are not included in Table 15.18. This includes direct and indirect impacts of habitat loss, destruction of nests or resting places, pollution and disturbance and/or displacement. This applies to the following features for which breeding territories were identified during surveys in 2025: cuckoo, skylark, willow warbler, wheatear and meadow pipit. A separate assessment of the predicted effects of decommissioning is provided in Paragraphs 15.19.39 to 15.19.41.

Table 15.18: Determination of Important Ecological Features at Ffynnon Oer Wind Farm

| Feature                                                                      | Covering legislation and guidance/ conservation designation* | Geographical level of value | IEF | Justification                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|------------------------------------------------------------------------------|--------------------------------------------------------------|-----------------------------|-----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <i>Pipistrellus</i> bat species (common, soprano and Nathusius' pipistrelle) | Schedule 2, Schedule 5, Section 7                            | Local                       | Yes | <p>Common and soprano pipistrelle are common and widespread and are known to occur throughout Wales, with estimated populations of 297,000 and 478,000<sup>51</sup>, respectively. Nathusius' pipistrelle has been under recorded, and its distribution may be greater than currently considered<sup>52</sup>. Given the low to moderate activity recorded at the site, <i>Pipistrellus</i> sp. have been assigned a geographical value of Local.</p> <p>Common pipistrelle was the most frequently recorded bat species, representing 73.7% of all bat passes recorded, with most passes recorded during summer (4,456) and the highest number of calls recorded at detector</p> |

<sup>51</sup> Mathews F, Smith B, Harrower C, Coomber F in association with the Wales Mammal Biodiversity Action Forum. (2020). The State of Mammals in Wales. A report by the Mammal Society for Natural Resources Wales, produced in association with Wales Mammal Biodiversity Action Forum. The Mammal Society, London. ISBN: 978-0-9935673-6-0

<sup>52</sup> There is a general lack of information on the Nathusius' pipistrelle bat in Great Britain, and until very recently it was considered a vagrant. Only five maternity roosts have been identified in England, and none in Scotland or Wales. It is cited on the IUCN Red List, with a Nature Conservation Status of 'Unknown' in all countries. Records for the Nathusius' pipistrelle bat are highly dispersed which reflects the relatively short time for which appropriate acoustic recording equipment has been widely available, and also the localised nature of concentrated survey effort. Population estimates for the UK are not currently available.

| Feature | Covering legislation and guidance/ conservation designation* | Geographical level of value | IEF | Justification                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|---------|--------------------------------------------------------------|-----------------------------|-----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|         |                                                              |                             |     | <p>10 (2,757). Ecobat classed common pipistrelle activity as low, with an overall low risk during all seasons (see Table 15.16).</p> <p>Soprano pipistrelle passes comprised 6.2% of all passes (601), with most passes recorded during summer (475) and the highest number of calls recorded at detector 10 (449). Ecobat classed soprano pipistrelle activity as high in spring, low in summer and low-moderate in autumn, with an overall risk of medium in spring and low in summer and autumn (see Table 15.16).</p> <p>Nathusius' pipistrelle passes comprised 1.2% of all passes (112), with most passes recorded during summer (89) and the highest number of calls recorded at detector 10 (75). Ecobat classed Nathusius' pipistrelle activity as low-moderate in spring and summer and high in autumn, with an overall risk of low in spring and summer and medium in autumn (see Table 15.16).</p> <p>A single bat carcass, identified as a small pipistrelle (either common or soprano pipistrelle) was recovered at T3 on 8th August.</p> <p>All <i>Pipistrellus</i> species are considered to be at high risk of collision with wind turbines (see Table 15.5). Due to the activity recorded at Ffynnon Oer Wind Farm and the recovery of a single carcass, <b>common, soprano and Nathusius' pipistrelle</b> are considered to be IEFs and are taken forward for EclA.</p> |

| Feature                                                                     | Covering legislation and guidance/ conservation designation* | Geographical level of value | IEF | Justification                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|-----------------------------------------------------------------------------|--------------------------------------------------------------|-----------------------------|-----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <i>Myotis</i> bat species (Daubenton's, Natterer's, Brandt's and whiskered) | Schedule 2, Schedule 5                                       | Local                       | No  | <p><i>Myotis</i> species, Daubenton's and Natterer's, are widespread in the UK and Wales with estimated populations of 108,000 and 52,300 in Wales<sup>51</sup>, respectively. While Brandt's and whiskered bats are known to occur in Wales, the extent of the population and distribution are unknown<sup>53</sup>. Given the low to moderate activity recorded at the site, <i>Myotis</i> sp. have been assigned a geographical value of Local.</p> <p><i>Myotis</i> species were the second-most frequently recorded bat species, representing 17.2% of all bat passes recorded with most passes recorded during autumn (1,177) and the highest number of passes recorded at detector 3 (746). A single pass was recorded 30 minutes after sunset during spring at detector 10 (see Table 15.15), which was located approximately 182 m from the nearest turbine. Ecobat classed <i>Myotis</i> sp. activity as low-moderate in</p> |

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<sup>53</sup> Estimation of populations for both Brandt's and whiskered bats is not known in the UK due to lack of data, and they are both on the IUCN Red List but assessed as 'Favourable' in the UK (unknown for Wales). Drivers for population change and threats to the population have not been assessed.

| Feature              | Covering legislation and guidance/ conservation designation* | Geographical level of value | IEF | Justification                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|----------------------|--------------------------------------------------------------|-----------------------------|-----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                      |                                                              |                             |     | <p>spring and summer and low in autumn, with overall low risk during all seasons (see Table 15.16).</p> <p>No carcasses were recovered for <i>Myotis</i> species, although the highest number of passes was recorded at T3 where a pipistrelle carcass was recovered in August, and most passes were recorded during autumn.</p> <p>Due to the low risk of collision (see Table 15.5) and the relatively low activity recorded, there is unlikely to be a significant population-level effect of the Proposed Life Extension on <i>Myotis</i> species given that there are no proposed changes to infrastructure. Therefore, this species is not considered to be an IEF and is not taken forward for EcIA.</p> |
| Brown long-eared bat | Schedule 2, Schedule 5, Section 7                            | Local                       | No  | <p>Brown long-eared bat is widespread in Wales and the southwest of England with an estimated population of 96,600 in Wales<sup>51</sup>. Given the low activity recorded at the site, brown long-eared bat has been assigned a geographical value of Local.</p> <p>Brown long-eared bat passes comprised 0.6% of all passes (59) with most recorded during autumn (52) and the highest number of calls recorded at detector 3 (24). Ecobat classed brown long-eared bat activity as high in spring</p>                                                                                                                                                                                                         |

| Feature       | Covering legislation and guidance/ conservation designation* | Geographical level of value | IEF | Justification                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|---------------|--------------------------------------------------------------|-----------------------------|-----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|               |                                                              |                             |     | <p>and summer and low-moderate in autumn, with overall risk of medium in spring and summer and low in autumn (see Table 15.16).</p> <p>No brown long-eared bat carcasses were recovered.</p> <p>Due to the low risk of collision (see Table 15.5) and the low activity recorded, there is unlikely to be a significant population-level effect of the Proposed Life Extension on brown long-eared bat given that there are no proposed changes to infrastructure. Therefore, this species is not considered to be an IEF and is not taken forward for EcIA.</p> |
| Leisler's bat | Schedule 2,<br>Schedule 5,<br>Section 7                      | Local                       | Yes | <p>Leisler's are known to occur in Wales, however the extent of the population and distribution are unknown<sup>54</sup>. There is an estimated population of 28,000 in the UK<sup>55</sup>. Although Ecobat classes activity at the site as high, the activity recorded at the site is not considered to be sufficient to assign a geographical</p>                                                                                                                                                                                                            |

<sup>54</sup> The population estimate in Wales is unknown but classed as 'Near Threatened'.

<sup>55</sup> Mathews F, Kubasiewicz LM, Gurnell J, Harrower CA, McDonald RA, Shore RF. (2018) A Review of the Population and Conservation Status of British Mammals: Technical Summary. A report by the Mammal Society under contract to Natural England, Natural Resources Wales and Scottish Natural Heritage. Natural England, Peterborough.

| Feature              | Covering legislation and guidance/ conservation designation* | Geographical level of value | IEF | Justification                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|----------------------|--------------------------------------------------------------|-----------------------------|-----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                      |                                                              |                             |     | <p>value of Regional. Therefore, Leisler's bat has been assigned a geographical value of Local.</p> <p>Leisler's passes comprised 0.1% of all passes (nine), with most recorded during summer (seven) and the highest number of calls recorded at detector 10 (three). Ecobat classed Leisler's activity as high with an overall medium risk in spring and summer (see Table 15.16).</p> <p>Leisler's is considered to be at high risk of collision with wind turbines (see Table 15.5). As the activity of this species was classed as high by Ecobat in relation to relative activity in the region, with an overall risk level of medium, <b>Leisler's is considered to be an IEF and is taken forward for EcIA.</b></p> |
| Lesser horseshoe bat | Schedule 2, Schedule 5, Section 7                            | Local                       | No  | <p>Lesser horseshoe bat is widespread throughout Wales with an estimated population of 30,900<sup>51</sup> (50,300 in the UK<sup>55</sup>). Given the low activity recorded at the site, lesser horseshoe bat has been assigned a geographical value of Local.</p> <p>A total of three lesser horseshoe bat passes were recorded, all at detector 5 during spring. Ecobat classed lesser horseshoe bat activity as high with overall medium risk in spring (see Table 15.16).</p>                                                                                                                                                                                                                                           |

| Feature     | Covering legislation and guidance/ conservation designation* | Geographical level of value | IEF | Justification                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|-------------|--------------------------------------------------------------|-----------------------------|-----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|             |                                                              |                             |     | Due to the low risk of collision (see Table 15.5) and the low activity recorded, there is unlikely to be a significant population-level effect of the Proposed Life Extension on lesser horseshoe bat given that there are no proposed changes to infrastructure. Therefore, this species is not considered to be an IEF and is not taken forward for EclA.                                                                                               |
| Song thrush | Section 7                                                    | Local                       | No  | <p>Song thrush is widespread within Wales, however, as song thrush is a bird of conservation concern that has been recorded occasionally at the site, song thrush has been assigned a geographical value of Local.</p> <p>A single breeding territory was identified in 2025, just outside the site boundary to the south. A single carcass considered to be song thrush was recovered at T3 during the carcass searches on 1st August 2025. A single</p> |

| Feature | Covering legislation and guidance/ conservation designation* | Geographical level of value | IEF | Justification                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|---------|--------------------------------------------------------------|-----------------------------|-----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|         |                                                              |                             |     | <p>mortality as a result of collision represents 0.0006% of estimated breeding territories in Wales (160,000<sup>56</sup>) and 0.00007% in the UK (1,300,000<sup>57</sup>).</p> <p>Half (eight of 16) of the turbines were searched for carcasses over a 13-week period. A single carcass recovered at this survey effort extrapolated up to 16 turbines over 52 weeks equates to eight carcasses per year, which remains &lt;0.05% of the estimated breeding territories in Wales (0.005%) and the UK (0.0006%).</p> <p>Potential annual mortality of &lt;0.05% of the population of song thrush in Wales and the UK is unlikely to be detectable above annual background mortality of adults (44%)<sup>58</sup> and is therefore not considered to be significant. Therefore, this species is not considered to be an IEF and is not taken forward for EclA.</p> |

<sup>56</sup> Hughes, J., Spence, I.M. and Gillings, S. (2020). Estimating the sizes of breeding populations of birds in Wales. *Birds in Wales* 17:1.

<sup>57</sup> Woodward, I., Aebischer, N., Burnell, D., Eaton, M., Frost, T., Hall, C., Stroud, D.A. & Noble, D. (2020). Population estimates of birds in Great Britain and the United Kingdom. *British Birds* 113: 69–104.

<sup>58</sup> BTO BirdFacts. Available at: <https://www.bto.org/learn/about-birds/birdfacts> [Accessed: 20/01/2026]

| Feature   | Covering legislation and guidance/ conservation designation* | Geographical level of value | IEF | Justification                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|-----------|--------------------------------------------------------------|-----------------------------|-----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Stonechat | -                                                            | Negligible                  | No  | <p>Stonechat is common and widespread within Wales and is not a bird of conservation concern. Therefore, stonechat has been assigned a geographical value of Negligible.</p> <p>A single stonechat carcass was recovered at T4 during the carcass searches on 1st August 2025. A single mortality as a result of collision represents &lt;0.05% of the estimated number of breeding pairs in the UK (65,000<sup>57</sup>; a population estimate was not available for Wales).</p> <p>Half (eight of 16) of the turbines were searched for carcasses over a 13-week period. A single carcass recovered at this survey effort extrapolated up to 16 turbines over 52 weeks equates to eight carcasses per year, which remains &lt;0.05% of the estimated breeding pairs in the UK (0.01%). Stonechat is not a bird of conservation concern<sup>25</sup> in the UK or Wales and population trends indicate that the population is steadily increasing<sup>59</sup>. Therefore, potential</p> |

<sup>59</sup> BTO Bird Trends Explorer. Available at: [https://data.bto.org/trends\\_explorer/](https://data.bto.org/trends_explorer/) [Accessed: 20/01/2026]

| Feature    | Covering legislation and guidance/ conservation designation* | Geographical level of value | IEF | Justification                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|------------|--------------------------------------------------------------|-----------------------------|-----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|            |                                                              |                             |     | annual mortality of <0.05% of stonechat is not considered to be significant. This species is not considered to be an IEF and is not taken forward for EclA.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Tree pipit | Section 7<br>Red                                             | Local                       | No  | <p>Tree pipit is widespread within Wales, however, as tree pipit is a bird of conservation concern that has been recorded occasionally at the site, tree pipit has been assigned a geographical value of Local.</p> <p>A single carcass considered to be tree pipit was recovered at T5 during the carcass searches on 11 September 2025. A single mortality as a result of collision represents 0.006% of estimated breeding territories in Wales (16,500<sup>56</sup>) and 0.0009% in the UK (105,000<sup>57</sup>).</p> <p>Half (eight of 16) of the turbines were searched for carcasses over a 13-week period. A single carcass recovered at this survey effort extrapolated up to 16 turbines over 52 weeks equates to eight carcasses per year, which remains &lt;0.05% of the estimated breeding territories in the UK (0.007%) and is 0.05% of the estimated breeding territories in Wales (0.025% of breeding individuals).</p> <p>Potential annual mortality of &lt;0.05% of the population of tree pipit in Wales and the UK is unlikely to be detectable above annual background mortality of adults (58%)<sup>58</sup> and is therefore not considered to be significant. Therefore, this species is not considered to be an IEF and is not taken forward for EclA.</p> |

| Feature                                                                       | Covering legislation and guidance/ conservation designation* | Geographical level of value | IEF | Justification                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|-------------------------------------------------------------------------------|--------------------------------------------------------------|-----------------------------|-----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Corvid spp. (jay, magpie, jackdaw, rook, carrion crow, hooded crow and raven) | Red (rook)<br>Amber (magpie and hooded crow)                 | Local                       | No  | <p>Of the corvid species in Wales, magpie, rook and hooded crow are considered to be birds of conservation concern<sup>25</sup>, whereas jay, jackdaw, carrion crow and raven are not. These species are generally common and widespread within Wales, however, as magpie, rook and hooded crow are birds of conservation concern, these features have been assigned a geographical value of Local.</p> <p>Three records of feather spots were returned during the carcass searches: one at T10 on 3rd July and two at T15 on 8th and 21st August 2025. Three mortalities as a result of collision represents 0.004% of the estimated breeding territories of magpie (79,500) and 0.008% of estimated breeding pairs of rook (35,500) in Wales<sup>56</sup>. There is no population estimate for hooded crow in Wales, however, three mortalities represents 0.001% of the estimated breeding territories in the UK (285,000<sup>57</sup>).</p> <p>Half (eight of 16) of the turbines were searched for carcasses over a 13-week period. Three feather spots recovered at this survey effort extrapolated up to 16 turbines over 52 weeks equates to 24 carcasses per year, which represents 0.03%% of estimated magpie breeding territories and 0.07% of estimated breeding pairs of rook in Wales, and 0.008% of estimated hooded crow breeding territories in the UK.</p> |

| Feature | Covering legislation and guidance/ conservation designation* | Geographical level of value | IEF | Justification                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|---------|--------------------------------------------------------------|-----------------------------|-----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|         |                                                              |                             |     | <p>Overall, the UK populations of magpie and hooded crow are increasing<sup>59</sup>. The rook population still on a downward trend, however, a potential annual mortality of 0.07% of rook breeding pairs is considered unlikely to be detectable against annual background mortality of adults (21%)<sup>58</sup>.</p> <p>Overall, potential annual collision mortality of corvid species is not considered to be significant. Corvid species are therefore not considered to be an IEF and are not taken forward for EclA.</p> |
| Goshawk | Schedule 1<br>Amber                                          | Local                       | No  | <p>Goshawk are widespread in Wales, with an estimated population of 321 breeding pairs (1,042 in the UK)<sup>60</sup>. As goshawk is a bird of conservation concern that has been recorded occasionally, goshawk has been assigned a geographical value of Local.</p> <p>Goshawk were observed at the northeast edge of the site boundary on two occasions in April, in proximity to T14. No collisions were observed or carcasses recovered during surveys. Although T14 was searched once during</p>                            |

<sup>60</sup> Eaton, M. and the Rare Breeding Birds Panel (2025). Rare breeding birds in the UK in 2023. *British Birds* 118, November 2025, 568-634.

| Feature  | Covering legislation and guidance/ conservation designation* | Geographical level of value | IEF | Justification                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|----------|--------------------------------------------------------------|-----------------------------|-----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|          |                                                              |                             |     | <p>the carcass surveys (see Appendix A15.2), other surveys were carried out in proximity to T14 including the BBS, breeding raptor surveys and HMP condition assessment (see Appendix A15.1), during which a goshawk carcass would likely have been observed if present.</p> <p>The habitat within the site boundary is open, with plantation forestry present at the edges of the site boundary to the west, east and south. The distribution of suitable habitat for goshawk (comprising plantation woodland, and woodland rides, clearings and margins) surrounding the turbines rather than within the turbine array, suggests that goshawk would spend little time foraging or commuting within the site boundary in proximity to the turbines. Furthermore, as there is no suitable nesting habitat within the turbine array, goshawk are unlikely to display within proximity to the turbines.</p> <p>Therefore, it is considered that any potential collision risk associated with the Proposed Life Extension on the population of goshawk in Wales would be of low negative magnitude and therefore not significant. This species is therefore not considered to be an IEF and is not taken forward for EclA.</p> |
| Red kite | Annex I<br>Schedule 1 and 1A                                 | Local                       | No  | Red kite are common and widespread in Wales, with an estimated 1,350 breeding pairs <sup>56</sup> (4,400 in the UK <sup>57</sup> ). As red kite is a bird of conservation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

| Feature | Covering legislation and guidance/ conservation designation* | Geographical level of value | IEF | Justification                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|---------|--------------------------------------------------------------|-----------------------------|-----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|         |                                                              |                             |     | <p>concern that has been recorded occasionally, red kite has been assigned a geographical value of Local.</p> <p>A red kite was observed foraging within the site on two occasions with no collisions observed or carcasses recovered during surveys. Although red kite is considered to be at risk of collision generally, they are estimated to have a turbine avoidance rate of 99%<sup>61</sup>.</p> <p>Research detailed in Hereward <i>et al.</i>, (2025)<sup>62</sup> indicates that there is a low probability that wind development in Wales will prevent the continued growth of the red kite population. However, caution should be implemented for developments in proximity (4 km) to SPAs designated for red kite. The Proposed Life Extension is not near to any SPAs designated for red kite,</p> |

<sup>61</sup> NatureScot (2025). Wind farm impacts on birds – Use of Avoidance Rates in the NatureScot Wind Farm Collision Risk Model. Available at: <https://www.nature.scot/doc/wind-farm-impacts-birds-use-avoidance-rates-naturescot-wind-farm-collision-risk-model> [Accessed: 15/01/2026]

<sup>62</sup> Hereward, H.F.R., Macgregor, C.J., Gabb, O., Connell, A., Thomas, R.J., Cross, A.V. & Taylor, R.C. 2024. Modelling population-level impacts of wind farm collision risk on Welsh Red Kites. *BTO Research Report 766*: British Trust for Ornithology, Thetford, UK

| Feature | Covering legislation and guidance/ conservation designation* | Geographical level of value | IEF | Justification                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|---------|--------------------------------------------------------------|-----------------------------|-----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|         |                                                              |                             |     | <p>namely Elenydd-Mallaen and Berwyn SPAs which lie approximately 43 km and 114 km north of Ffynnon Oer Wind Farm, respectively.</p> <p>Therefore, it is considered that any potential collision risk associated with the Proposed Life Extension on the population of red kite in Wales would be of low negative magnitude and therefore not significant. This species is therefore not considered to be an IEF and is not taken forward for EcIA.</p> |

\*Schedule 2 = Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019<sup>5</sup>; Annex I = EC Birds Directive 2009<sup>3</sup>; Schedule 1, 1A and Schedule 5 = WCA 1981 (as amended)<sup>6</sup>; Section 7 = Environment (Wales) Act 2016<sup>7</sup>; and Red and Amber = Wales BoCC<sup>28</sup>.

## Impact Assessment

15.19.14 Due to their presence on site and/or the classification of these species as high risk within guidance<sup>22</sup>, common, soprano and Nathusius' pipistrelles, and Leisler's have been retained as IEFs.

15.19.15 Assessment of impacts of the Proposed Life Extension on these IEFs during operation and decommissioning is provided below.

### *Operation*

#### *Common, Soprano and Nathusius' Pipistrelles*

15.19.16 During the operational phase, rotating turbines can present a risk to flying bats as a result of potential collision when flying in close proximity to turbines. Research<sup>63</sup> has identified that most bat fatalities at UK wind farms comprise common pipistrelle, soprano pipistrelle and noctule bats. This has fed into guidance<sup>22</sup> and as such bat species have been classified with specific risk levels, with common pipistrelle, soprano pipistrelle and Nathusius' pipistrelle classed as at high collision risk. Based on the high risk of collision, the levels of activity on site and recovery of a small pipistrelle carcass during carcass searches, common pipistrelle, soprano pipistrelle and Nathusius' pipistrelle are considered to be IEFs in relation to the Proposed Life Extension.

15.19.17 Overall, the highest number of common, soprano and Nathusius' pipistrelle passes were recorded during summer (Table 15.11), with the highest number of passes recorded at detector 10 (Table 15.12), located adjacent to woodland in the south of the site. The BAI calculated for all three species was also highest at detector 10 (Table 15.13). Overall, detectors 5, 10 and 16, located within the south of the site recorded the highest number of common pipistrelle and Nathusius' pipistrelle passes and produced the highest BAIs compared with other detectors, particularly detectors 3, 4, 7 and 13, which produced the lowest BAIs. Soprano pipistrelle passes and BAIs were also highest at detectors 10 and 16, with more passes recorded and a higher BAI produced at detector 1 than detector 5. The higher activity across detectors 5, 10 and 16 may be reflective of the quality of foraging and commuting habitat in the south of the site which contains more streams, ditches and distinct field margins than in the north of the site.

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<sup>63</sup> Mathews, F., Richardson S., Lintott, P. & Hosken, D. (2016) Understanding the Risk to European Protected Species (bats) at Onshore Wind Turbine Sites to inform Risk Management. Final report. University of Exeter

- 15.19.18 Although the highest level of activity recorded within the site was for common pipistrelle, the Ecobat output indicated that the relative activity of common pipistrelle within the wider area was low during all seasons. For soprano pipistrelle, relative activity was calculated to be high in spring, low in summer and low-moderate in autumn. Whereas relative activity for Nathusius' pipistrelle was calculated as low-moderate in spring and summer and high in autumn. The overall risk category produced by Ecobat was low for common pipistrelle during all seasons, with medium risk for soprano pipistrelle in spring and low risk in summer and autumn. Conversely, the overall risk level produced by Ecobat for Nathusius' pipistrelle was low during spring and summer and medium during autumn (see Table 15.16).
- 15.19.19 Carcass searches recovered a single bat carcass at T3 during carcass searches on 8th August, identified as a small pipistrelle (either common or soprano pipistrelle). As common and soprano pipistrelle activity peaked during summer, the collision may correspond with this peak in activity within the site. However, overall recorded activity of common pipistrelle was lowest at T3 evidenced by both the number of bat passes and BAI. For soprano pipistrelle, activity was fairly consistent across all detectors other than detector 10. The fourth lowest number of soprano pipistrelle passes (14) and BAI (0.4) were at detector 3. T3 is located in open grassland, with the closest suitable bat habitat feature, a stream, located approximately 180 m to the north-west. Therefore, although there is foraging habitat in proximity to T3, there are limited linear features present for commuting, which is likely the reason for low activity within this area of the site.
- 15.19.20 The number of common and soprano pipistrelle passes, whilst highest during summer, remained higher in autumn than in spring. At detector 3, the number of common pipistrelle passes was markedly higher in autumn (103 passes) than in summer (31 passes). This was also true for soprano pipistrelle for which two passes were recorded at detector 3 in summer, with 12 passes recorded there in autumn. Notably, the common and soprano pipistrelle activity at T10 and T16 was lower in autumn (383 and 74 common pipistrelle passes and 19 and 10 soprano pipistrelle passes) than in summer (2,027 and 951 common pipistrelle passes and 418 and 38 soprano pipistrelle passes), which indicates a potential change in use of habitat within the site between seasons, with the south of site used more frequently in summer and the north more frequently in autumn. The increase in recorded bat passes at detector 3 in autumn followed the recovery of a single fatality in summer.
- 15.19.21 Conversely, Nathusius' pipistrelle passes were higher in spring (21 passes) than in autumn (two passes). Thirteen of the passes in spring were recorded at detector 10, with the rest recorded at detectors 1, 5 and 16. Of the 89

passes recorded during summer, 61 were recorded at detector 10, with 10 recorded at both detectors 16 and 5. The remaining eight were recorded at detectors 1, 3 and 13. During autumn, a single pass was recorded at detectors 5 and 10. The higher activity recorded at detector 10 across spring and summer, and within the south of the site where detectors 5 and 16 were located, indicates that habitats within the south of the site are of higher quality for Nathusius' pipistrelle than habitats within the north. This is likely due to the higher frequency of watercourses and flush habitat within the south of the site, which is preferred by Nathusius' pipistrelle<sup>35</sup>.

- 15.19.22 The closer to sunset or sunrise that bat passes are detected, the higher the likelihood that the recorded bats may be roosting nearby. Of the bat passes recorded within 30 minutes of sunset or sunrise, 95% were identified as common or soprano pipistrelle. It is also noted that most of the bat passes recorded at sunset or sunrise were recorded at detector 10 (67 of 98), 63 of which were by common pipistrelle. Of these, most were recorded in autumn (46), with 12 recorded in spring and five recorded in summer. It was noted that 2.68% of all Nathusius' pipistrelle passes (three of 112) were recorded 30 minutes after sunset (see Table 15.12). All three passes were recorded during spring, two at detector 10 and one at detector 16.
- 15.19.23 Bat activity in relation to sunset and sunrise is variable depending on weather conditions and season. Although most common pipistrelle passes recorded at sunset/sunrise were recorded in autumn (46), this occurred on eight nights during a deployment period of 10 nights (21 September to 1 October), whereas the 28 passes recorded in spring occurred on 14 nights over a deployment period of 19 nights between 21st April to 10th May. All six common pipistrelle passes recorded within 30 minutes of sunset in summer occurred on two nights (6th and 8th July) during a deployment period of 12 nights (2nd to 14th July). A single soprano pipistrelle pass was recorded at sunset on 28th April, with the remaining four recorded on 22nd, 24th, 28th and 30th September. The Nathusius' pipistrelle passes at sunset were recorded on the 23rd and 24th April.
- 15.19.24 Soprano and Nathusius' pipistrelle passes at sunset were all recorded during wind under 5 m/s and temperature above 10°C. For common pipistrelle, seven passes were recorded above 5 m/s, six of which were recorded during summer and the remaining one in spring. The concentration of common and soprano pipistrelle passes at sunset/sunrise during shorter detector deployment periods suggests that if a roost is present within the wider landscape, it would most likely be used during summer or autumn. Whereas, for Nathusius' pipistrelle, if a roost is present within the wider area, this would be used during spring.

- 15.19.25 The comparatively low proportion of common and soprano pipistrelle passes at sunset or sunrise compared with the total passes recorded for these species (see Table 15.14) indicates that if there is any use of potential roost features within proximity to the turbines, these would be occasional. As for Nathusius' pipistrelle, the number of passes recorded within 30 minutes of sunset across two of the 16 detectors (detectors 10 and 16) is low (three passes). Nathusius' pipistrelle may emerge early from roosts compared with other species, anywhere between 11 and 50 minutes after sunset<sup>65</sup>. Therefore, three Nathusius' pipistrelle passes within 30 minutes of sunset across two detectors, are not considered to be indicative of a sensitive roost within proximity to turbines owing to the low number and distribution of the passes. Additionally, there are no known structures within the site boundary that would provide suitable roosting habitat for bats, and the site is surrounded by conifer plantation which is often limited in suitable roosting habitat.
- 15.19.26 Collisions with turbines may occur outside of the survey period of July to September, however these are likely to be at low levels as 90% of bat casualties reported in north-western Europe have been found to occur between late July and early October<sup>64</sup>. Based on the recovery of a single pipistrelle carcass during the carcass search period (July to September), there was an estimated 0.05 bat fatalities per day at Ffynnon Oer Wind Farm over the 91-day period. This equates to 0.003 carcasses per turbine per day between July and September, which coincides with the period of highest bat activity recorded at the site. The calculation allows for the assumption that carcasses were likely missed between the weekly carcass searches, given that the average persistence of carcasses during the carcass persistence trials was six days. The estimated rate of 0.003 collisions per turbine per day (10.7 bats per year at 16 turbines) is considered to be low compared with research which anticipates two bat fatalities per turbine per year (32 bats per year at 16 turbines)<sup>65,66</sup>.

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<sup>64</sup> Rydell, Jens; Bach, Lothar; Dubourg-Savage, Marie-Jo; Green, Martin; Rodrigues, Luisa; Hedenström, Anders (2010). Bat mortality at wind turbines in northwestern Europe, *Acta Chiropterologica*, Volume 12(2), December 2010, pp. 261-274 (14).

<sup>65</sup> Behr, O. (2015) 'Bat-friendly' operation of wind turbines – the current status of knowledge and planning procedures in Germany. Presentation at Wind Power and Wildlife Symposium, Stirling University

<sup>66</sup> Behr, Oliver & Brinkmann, Robert & Hochradel, Klaus & Mages, Jürgen & Korner-Nievergelt, Fränzi & Niermann, Ivo & Reich, Michael & Simon, Ralph & Weber, Natalie & Nagy, Martina. (2017). Mitigating Bat Mortality with Turbine-Specific Curtailment Algorithms: A Model Based Approach. 10.1007/978-3-319-51272-3\_8.

- 15.19.27 The flight height and behaviour of common and soprano pipistrelle put them at high risk of collision. Common and soprano pipistrelle are common and widespread in Wales and in the UK, and so the likelihood of detectable population level effects to these species as a result of collision are considered to be very low. Therefore, the effect of the Proposed Life Extension on local populations of common and soprano pipistrelle during operation is predicted to be of low negative magnitude and **not significant**.
- 15.19.28 Nathusius' pipistrelle is also at high risk of collision with turbines due to flight height and behaviour. In addition to this, the population vulnerability of Nathusius' pipistrelle in Wales is high. However, no Nathusius' pipistrelle carcasses were recovered during carcass searches, and the highest level of activity was concentrated within the south of the site. As activity was highest at detector 10, located approximately 182 m from the nearest turbine and on the edge of the site boundary, it is considered that there is unlikely to be a significant population-level effect of the Proposed Life Extension through collision mortality on Nathusius' pipistrelle. Therefore, the effect of the Proposed Life Extension on Nathusius' pipistrelle during operation is predicted to be of low negative magnitude and **not significant**.

#### Leisler's

- 15.19.29 Leisler's bat is considered to be at high risk of potential impact from collision with turbines and has a high population sensitivity in Wales<sup>22</sup>. Overall, a total of nine Leisler's bat passes were recorded, two of which were recorded in spring and seven in summer. No passes were recorded in autumn. Leisler's was recorded at detectors 1, 3, 5, 10 and 16. Of these detectors, the highest number of passes (three) was recorded at detector 10, with two passes recorded at both detectors 5 and 16. Six of the passes recorded during summer were recorded at detectors 5, 10 and 16, which are all located within the south of the site. All detectors were located >50 m from the nearest turbine, however detector 10 which recorded the highest number of passes was located approximately 182 m from the nearest turbine (T10).
- 15.19.30 Ecobat classed the relative activity of Leisler's bat compared with the wider area as high in spring and summer (see Table 15.16). Although the activity is classed as high, five of the seven passes recorded in summer were on the same date (13th July) with the other two passes recorded on 9th and 10th July, which indicates that this was a short period of concentrated activity. Additionally, no Leisler's passes were recorded within 30 minutes of sunset or sunrise, indicating that the detectors were not in proximity to any roosts. Leisler's are at high risk of collision and Ecobat produced an overall medium risk during spring and summer, however, no Leisler's carcasses were

recovered during the carcass searches which took place during the period of higher Leisler's activity (July).

- 15.19.31 There has been a historic decline of *Nyctalus* species in the UK due to loss of roost locations and impacts on commuting and foraging habitat, however long-term population trends since 1999 indicate that *Nyctalus* species populations have been increasing<sup>67</sup>. The potential effects of the Proposed Life Extension are limited to collision risk. As no carcasses were recovered and all bat passes were recorded at detectors around the perimeter of the turbine array, it is anticipated that there is unlikely to be a significant population-level effect of the Proposed Life Extension on Leisler's given that no change to infrastructure is proposed. Therefore, the effect of the Proposed Life Extension on Leisler's during operation is predicted to be of low negative magnitude and **not significant**.

### ***Standoff Buffers for Bats***

- 15.19.32 Current guidance, implemented after the original ES was written<sup>1</sup>, recommends that a standoff buffer for all potential bat roost features in relation to turbine positioning is required for all new wind developments<sup>22</sup>. Standoff buffers are therefore considered to be embedded mitigation by design for all new wind farm developments. However, as there are no proposed changes to infrastructure for the Proposed Life Extension, standoff buffers are not included as embedded mitigation within this ES Addendum.
- 15.19.33 As requested by NRW (see Table 15.3), information relating to the appropriate turbine standoff buffers for bats is provided below in the context of the Proposed Life Extension. A summary of bat activity based on the results and analysis of surveys completed in 2025 for the Proposed Life Extension with relevance to bat standoff buffers is included to provide context.
- 15.19.34 The appropriate standoff buffer from suitable bat habitats for the turbines at Ffynnon Oer Wind Farm, based on dimensions and guidance, is 75 m. Seven turbines are located within 75 m of such habitats, including streams, field margins and drystone wall (T5, T8, T10, T11, T12, T13 and T16). Turbines T9 and T14 are located within 75 m of woodland. However, the woodland

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<sup>67</sup> Bat Conservation Trust, 2020. The National Bat Monitoring Programme Annual Report 2019. Bat Conservation Trust, London.

within the buffer, conifer plantation, is considered to be of low suitability for bats.

- 15.19.35 Detectors 4 and 13, nearest to T9 (207 m) and T14 (260 m) respectively, recorded some common pipistrelle activity within 30 minutes of sunset during spring (four passes at detector 4 and one pass at detector 13). Detectors 4 and 13 are approximately 75 m and 150 m from woodland. Whereas 63 common pipistrelle passes were recorded at sunset or sunrise at detector 10, the number of bat passes recorded during sunset does not indicate that any sensitive roosts are present in woodland within proximity to T9 or T14. However, it is possible that suitable temporary roost features are present within the 75 m standoff buffer.
- 15.19.36 Part of the plantation within proximity to T9 is due to be felled in 2027/2028, with the rest of the plantation within the buffer and in proximity to T14 due to be felled in 2033/2034<sup>68</sup>. Overall activity at detectors 4 and 13 (BAI 12.1 and 19.2) was low in comparison to activity recorded at other detectors and the mean BAI of 35.0 across all detectors (see Table 15.11). No bat carcasses were recorded at T4 or T13 (the nearest turbines to T9 and T14 searched during the carcass searches). As activity was low in the north-east relative to other areas of the site, and no bat carcasses were recovered in this area, the presence of T9 and T14 within 75 m of woodland is not considered to be outside of best practice guidance, considering that the surrounding plantation has low roost potential. However, it is recommended that prior to any planned felling, the landowner (NRW) should carry out preliminary bat roost assessment in woodland within the 75 m buffer of T9 and T14 in line with best practice guidance.
- 15.19.37 A single bat carcass, a small pipistrelle, was recovered at T3 during the carcass searches. T3 is located within open grassland and is not within 75 m of any prominent suitable bat habitat features. The nearest suitable bat habitat feature to T3 is a stream to the north-west (approximately 180 m), with woodland present to the south-west (approximately 200 m). Given that most turbines (eight of 15) searched for carcasses at least once are located within 75 m of suitable bat habitat features where no bat carcasses were recovered, it is considered that the location of turbines has no adverse effect on bats foraging within the site. Furthermore, although the bat habitat buffers were not applied at the time of construction, the total fatality predicted on site is 10.7 bats per year (based on 0.05 bats per day during the active season

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<sup>68</sup> Information obtained through consultation with NRW via email on 11 November 2025.

from April to October inclusive), which is relatively low compared to two bats per turbine per year (32 bats across 16 turbines), as anticipated in relevant literature<sup>65,66</sup>.

- 15.19.38 As many of the suitable bat habitats features are either permanent in the landscape (streams and ditches) or are of relatively high ecological value in their own right (hedgerows, field margins and drystone wall), it is not considered appropriate to retrospectively manage bat suitable habitats within the site. Management objectives for the site are outlined within the HMP<sup>26</sup> and reviewed in Appendix A15.1. Biodiversity enhancement is also discussed in Appendix A15.1, with a view to completing a Phase 1 habitat survey during summer 2026 to identify opportunities for appropriate habitat enhancement suitable for the biodiversity assemblage within the site.

### *Decommissioning*

- 15.19.39 Similar to the potential effects of a construction phase, decommissioning would be expected to lead to short-term, temporary habitat loss and disturbance and/or displacement to habitats and/or species (potential effects are outlined in Paragraphs 15.19.2 to 15.19.5). Temporary habitat loss and disturbance and/or displacement will be mitigated via best practice embedded mitigation measures, outlined briefly in Paragraph 15.19.10. The best practice embedded mitigation measures will be included within a Decommissioning Plan as per Planning Condition 6 under the current consent which will be drafted prior to and implemented at the time of decommissioning.
- 15.19.40 For all ecological features assessed in the context of the Proposed Life Extension, the potential effects of decommissioning are predicted to be of lower magnitude than the effects during operation, and as such are predicted to be of negligible magnitude and **not significant**. This conclusion is based on the temporary, short-term nature of the decommissioning phase and the anticipated implementation of best practice embedded mitigation during decommissioning which will avoid effects of disturbance and/or displacement to species, destruction of nests or resting places and pollution.
- 15.19.41 Following any temporary habitat loss during the decommissioning phase, habitat restoration will be completed following removal of infrastructure. Details of habitat restoration will be outlined within the Decommissioning Plan and will be designed to replace any habitat loss within the site. Following decommissioning, it is anticipated that more suitable habitat will be available on site for foraging bats and birds compared to the current operational phase.

## 15.20 Biodiversity Enhancement

- 15.20.1 As discussed in Sub-section 15.19, continued operation of Ffynnon Oer Wind Farm will provide continued production of renewable energy with no identified significant effects on ecological features and no additional potential effects of a construction phase. It is anticipated that the potential effects of the decommissioning phase will be similar to potential effects of a construction phase. However, potential effects of decommissioning will be mitigated via embedded mitigation that will be outlined in a Decommissioning Plan as per Planning Condition 6 of current consent prior to decommissioning. Enhancements to benefit the biodiversity assemblage within the site will be secured for the Proposed Life Extension resulting in a net benefit for biodiversity throughout the proposed 10-year extended operational lifetime of Ffynnon Oer Wind Farm.
- 15.20.2 Under the Environment (Wales) Act (2016)<sup>7</sup> it is acknowledged that local authorities are required to seek to maintain and enhance biodiversity where possible, and as such, appropriate and proportionate ecological enhancements have been considered as part of the Proposed Life Extension. Biodiversity enhancements are proposed to align with Planning Policy Wales<sup>11</sup> to achieve a net benefit for biodiversity within the site which builds ecosystem resilience via the Diversity Extent Condition Connectivity and Aspects (DECCA) framework.
- 15.20.3 The habitats at Ffynnon Oer Wind Farm comprise blanket bog, heathland, acid grassland and flush. The current HMP objectives include enhancement of blanket bog and heathland habitat within the site. Given the focus on enhancement of these habitats and the use of much of the site as grazing pasture, there is a limited area for further enhancement which will not result in a change in land use or reduction in grazing area. Similarly, enhancement within proximity to turbines (75 m) should be avoided to reduce the possibility of enhancements encouraging bird and bat species to forage near the turbines. Therefore, enhancements which would increase the potential risk of collision to bats and birds are not proposed. Instead, biodiversity enhancements targeting improved habitat diversity or condition are being considered.
- 15.20.4 It is proposed that biodiversity enhancements would be confirmed post consent in a detailed updated HMP as a planning condition attached to the Section 73 consent. Habitat enhancements would be proposed to benefit the biodiversity assemblage within the site to align with actions laid out in the local NRAP<sup>19</sup> under the RLDP<sup>18</sup>. Suitable locations for enhancements will be identified following completion of a Phase 1 habitat survey in summer 2026.

The suggested wording for the planning condition attached to the Section 73 consent is as follows: *'Prior to the end of Year 21 of operations (30th July 2027), an updated Habitat Management Plan, including biodiversity enhancement measures (as required), will be submitted to and approved in writing by the Local Planning Authority.'*

15.20.5 Details of the HMP objectives and proposed updates are provided in Appendix A15.1.

## 15.21 Residual Effects

15.21.1 A summary of the pre-mitigation and residual effects on IEFs following mitigation, and the significance of effects in relation to the operational phase of the Proposed Life Extension is provided in Table 15.19.

15.21.2 It is considered that the pre-mitigation and residual magnitude of the effects of decommissioning will be negligible and not significant for all IEFs given the anticipated application of best practice embedded mitigation via a Decommissioning Plan.

**Table 15.19: Summary of pre-mitigation effects and residual effects of the operational phase on each IEF, and the residual significance of effects**

| IEF                                        | Conservation importance | Nature of pre-mitigation effect | Magnitude of pre-mitigation effect | Significance of pre-mitigation effect | Specific mitigation/compensation measure | Magnitude of residual effect | Residual significance |
|--------------------------------------------|-------------------------|---------------------------------|------------------------------------|---------------------------------------|------------------------------------------|------------------------------|-----------------------|
| Common, soprano and Nathusius' pipistrelle | Local                   | Collision risk                  | Low negative                       | Not significant                       | None                                     | Low negative                 | Not significant       |
| Leisler's                                  | Local                   | Collision risk                  | Low negative                       | Not significant                       | None                                     | Low negative                 | Not significant       |

Source: Natural Power

## 15.22 Cumulative Effects

- 15.22.1 The following section assesses the predicted cumulative impacts and potential effects on IEFs from the Proposed Life Extension, common, soprano and Nathusius' pipistrelle, and Leisler's, along with other plans or projects within an appropriate Zone of Influence (Zol) following guidance<sup>69</sup>.
- 15.22.2 Cumulative effects have been considered only for wind developments of more than three turbines within 10 km of the Proposed Life Extension which are in planning, have been consented or are operational (see Section 1.15, Table 1.5 of the ES Addendum for more information on these developments). Projects of three or less turbines were excluded due to the lack of publicly available data for developments of this size. IEFs for which a greater than negligible residual impact is predicted are considered, as negligible impacts will not result in a detectable increase in cumulative impacts. Table 15.20 provides the cumulative impact assessment of all identified wind developments.

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<sup>69</sup> Scotland Natural Heritage (2012). Assessing the cumulative impact of onshore wind energy developments. SNH (now NatureScot), Scotland.

Table 15.20: Cumulative Impact Assessment

| Site                                                   | Ffynnon Oer                                                                                                                                                         | Maesgwyn                                                           | Maesgwyn<br>Phase 2                                                                                                                              | Melin Court                                                                                                                              | Foel<br>Trawsnant                                                                                                                        | Llynfi Afan                                                                                                                                                 | Pen y<br>Cymoedd                                                                                                                  | Mynydd<br>Fforch<br>Dwm Wind<br>Farm                                                                                                                 | Cumulative<br>residual<br>effects                                                                                                                                                      |
|--------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| No.<br>turbines                                        | 16                                                                                                                                                                  | 13                                                                 | 4                                                                                                                                                | 5                                                                                                                                        | 11                                                                                                                                       | 12                                                                                                                                                          | 76                                                                                                                                | 6                                                                                                                                                    | 137                                                                                                                                                                                    |
| Site status                                            | Operational                                                                                                                                                         | Operational                                                        | Operational<br>(1 turbine)<br>Consented<br>(3 turbines)                                                                                          | Consented                                                                                                                                | Consented                                                                                                                                | Operational                                                                                                                                                 | Operational                                                                                                                       | Consented                                                                                                                                            | -                                                                                                                                                                                      |
| Baseline<br>survey year                                | 2002 and<br>2025                                                                                                                                                    | 2004-2006                                                          | 2013-2015                                                                                                                                        | 2012-2013                                                                                                                                | 2012-2013<br>and 2018                                                                                                                    | 2005-2008<br>and 2010                                                                                                                                       | 2005-2009                                                                                                                         | 2019-2022                                                                                                                                            | -                                                                                                                                                                                      |
| Common,<br>soprano<br>and<br>Nathusius'<br>pipistrelle | Low negative<br>magnitude<br>of impact<br>predicted for<br>common,<br>soprano and<br>Nathusius'<br>pipistrelle.<br><br>No<br>significant<br>effects<br>anticipated. | No<br>significant<br>effects<br>anticipated<br>for bat<br>species. | Common<br>and<br>soprano<br>pipistrelle<br>recorded –<br>low activity.<br><br>No<br>significant<br>effects<br>anticipated<br>for bat<br>species. | Common,<br>soprano<br>and<br>Nathusius'<br>pipistrelle<br>recorded –<br>low activity.<br><br>No<br>significant<br>effects<br>anticipated | Common,<br>soprano<br>and<br>Nathusius'<br>pipistrelle<br>recorded –<br>low activity.<br><br>No<br>significant<br>effects<br>anticipated | Common and<br>soprano<br>pipistrelle<br>recorded –<br>low activity.<br>No significant<br>effects<br>anticipated<br>for common<br>or soprano<br>pipistrelle. | Common<br>and<br>soprano<br>pipistrelle<br>recorded –<br>low activity<br>No<br>significant<br>effects<br>anticipated<br>for bats. | Common,<br>soprano<br>and<br>Nathusius'<br>pipistrelle<br>recorded –<br>low to<br>moderate<br>activity. No<br>significant<br>effects<br>anticipated. | No significant<br>effects were<br>identified for<br>common,<br>soprano or<br>Nathusius'<br>pipistrelle<br>across these<br>seven projects.<br>As a result,<br>cumulative<br>effects are |

| Site             | Ffynnon Oer                                                                                             | Maesgwyn                                                           | Maesgwyn<br>Phase 2                                                                             | Melin Court                                                                                     | Foel<br>Trawsnant                                                                               | Llynfi Afan               | Pen y<br>Cymoedd                                                                                | Mynydd<br>Fforch<br>Dwm Wind<br>Farm                                                                    | Cumulative<br>residual<br>effects                                                                                                                                                                            |
|------------------|---------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|---------------------------|-------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                  |                                                                                                         |                                                                    |                                                                                                 | for bat<br>species.                                                                             | for bat<br>species.                                                                             |                           |                                                                                                 |                                                                                                         | predicted to be<br><b>not significant.</b>                                                                                                                                                                   |
| <b>Leisler's</b> | Low negative<br>magnitude<br>of impact<br>predicted<br>and no<br>significant<br>effects<br>anticipated. | No<br>significant<br>effects<br>anticipated<br>for bat<br>species. | No Leisler's<br>recorded.<br>No<br>significant<br>effects<br>anticipated<br>for bat<br>species. | No Leisler's<br>recorded.<br>No<br>significant<br>effects<br>anticipated<br>for bat<br>species. | No Leisler's<br>recorded.<br>No<br>significant<br>effects<br>anticipated<br>for bat<br>species. | No Leisler's<br>recorded. | No Leisler's<br>recorded.<br>No<br>significant<br>effects<br>anticipated<br>for bat<br>species. | Leisler's<br>recorded –<br>low to<br>moderate<br>activity. No<br>significant<br>effects<br>anticipated. | Leisler's was<br>recorded at<br>one of the<br>seven sites<br>and no<br>significant<br>effects were<br>identified. As<br>a result,<br>cumulative<br>effects are<br>predicted to be<br><b>not significant.</b> |

## 15.23 Statement of Significance

- 15.23.1 An assessment has been made of the potential for significant effects of the Proposed Life Extension on IEFs. The magnitude of residual effects of the Proposed Life Extension are considered to be of **low negative** magnitude and **not significant**.