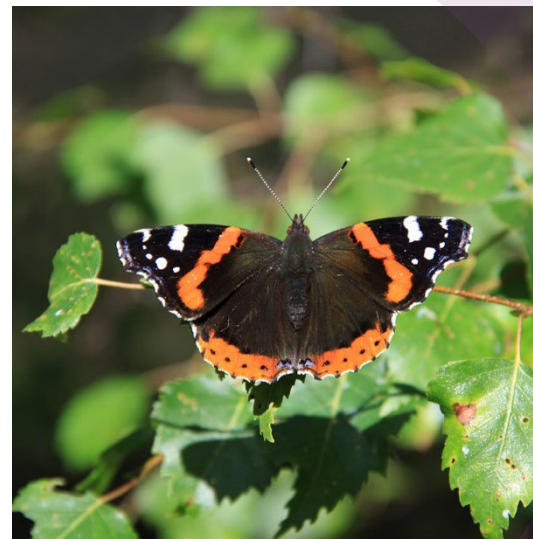




Pennant Walters (FoelT) Limited

Foel Trawsnant Wind Farm

Section 73 Application -
Environmental Statement
Addendum - Ornithology
Chapter Update



Report for

Dale Hart
Managing Director
Pennant Walters (FoelT) Limited
Hirwaun House
13th Avenue
Hirwaun Industrial Estate

Main contributors

Michael Shackshaft
Robert Werran

Issued by

 Digitally signed by
michael.shackshaft
Date: 2022.07.28
17:23:48 +01'00'

Michael Shackshaft

Approved by

 Digitally signed by
David.Kenyon
Date: 2022.07.28 17:02:11
+01'00'

David Kenyon

Wood Group UK Limited

Canon Court
Abbey Lawn
Abbey Foregate
Shrewsbury SY2 5DE
United Kingdom
Tel +44 (0) 1743 342 000

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Document revisions

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1	ES Addendum Ornithology Chapter Update	July 2022

Executive summary

Purpose of this report

On 25 November 2021 Neath Port Talbot County Borough Council (NPTCBC) granted planning permission (Decision Notice reference DN P2014/0825) for the installation of 11 wind turbines with a maximum blade tip height of 145m together with ancillary infrastructure (hereafter 'the approved development') at a site known as Foel Trawsnant, under The Town and Country Planning Act 1990 (as amended) (TCPA).

The permission includes 40 planning conditions. Following initial discussions with officers at NPTCBC Pennant Walters (FoelT) Ltd ('the Applicant') submitted a Section 73 (S73) TCPA application to vary planning condition 3 (List of Approved Plans) to authorise the following:

- An increase in the maximum rotor diameter from up to 90m to up to 133m, whilst maintaining the maximum height to blade tip of 145m.

Whilst the approved development (by way of planning permission ref. P2014/082 and subsequent Non-Material Amendment (NMA) permission LPA Ref. P2022/0344) is for the installation of up to 11 turbines, the Applicant is currently proposing to only install 8 of these.

The Proposed Development falls within Schedule 2 of *The Town and Country Planning (Environmental Impact Assessment) (Wales) Regulations 2017 (as amended)*¹ (the 'EIA Regulations'). An EIA was undertaken, and an Environmental Statement (ES) submitted in 2019² alongside the planning application for the approved scheme. A technical note was also submitted in June 2019 in response to a Regulation 19 request by NPTCBC for Further Environmental Information (FEI)³.

It has been agreed with NPTCBC that the potential environmental effects arising from the proposed increase in rotor diameter, and reduction in turbine numbers, can be presented in an addendum to the 2019 ES and 2019 FEI. This addendum was submitted in May 2022.

The NPTCBC Biodiversity Officer has also requested that further ornithological surveys are undertaken to understand its current usage by protected species and potential effects arising from the proposed increase in rotor diameters. Winter bird surveys have been undertaken during 2021/22 and breeding bird surveys were completed between March – July 2022.

This ES Addendum Ornithology Chapter Update provides updated assessment and conclusions taking into consideration data collected in 2021 and through to July 2022. Further to this, the results of the 2017-18 vantage point surveys have been re-analysed taking into consideration the changes in the distribution and nature of the proposed turbines and changes to recommended best practice to inform collision risk modelling.

The habitats on site have not significantly changed since the previous surveys completed in 2017/18. A similar species composition was recorded during both the vantage point surveys and updated breeding bird surveys. Whilst updated surveys have shown a slight increase in flight activity for red kite and the changes to the proposed turbines result in an increased number of predicted collisions for red kite and golden plover, the assessment of effects is still considered to be low and therefore not considered to represent a significant effect.

¹ Town and Country Planning (Environmental Impact Assessment) (Wales) Regulations 2017 [online]. Available at: <https://www.legislation.gov.uk/wsi/2017/567/contents> [Accessed 18 November 2021].

² Wood (2019). Foel Trawsnant Wind Farm Amended Scheme: Environmental Statement. Doc ref 40217rr066i1

³ Wood (2019). Foel Trawsnant Wind Farm Amended Scheme: Further Environmental Information. Doc ref 40217-WOD-XX-XX-J-TR-0001

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1. Introduction

1.1 Overview of the Proposed Development

- 1.1.1 On 25 November 2021 Neath Port Talbot County Borough Council (NPTCBC) granted planning permission (Decision Notice reference DN P2014/0825) for the installation of 11 wind turbines with a maximum blade tip height of 145m together with ancillary infrastructure (hereafter 'the approved development') at a site known as Foel Trawsnant, under *The Town and Country Planning Act 1990 (as amended)*⁴ (TCPA).
- 1.1.2 The permission includes 40 planning conditions. Following initial discussions with officers at NPTCBC it is the intention of Pennant Walters (FoelT) Ltd ('the Applicant') to submit a Section 73 (S73) TCPA application to vary planning condition 3 (List of Approved Plans) to authorise the following:
- An increase in the maximum rotor diameter from up to 90m to up to 133m, whilst maintaining the maximum height to blade tip of 145m.
- 1.1.3 Whilst the approved development (by way of planning permission ref. P2014/082 and subsequent Non-Material Amendment (NMA) permission LPA Ref. P2022/0344) is for the installation of up to 11 turbines, the Applicant is currently proposing to only install 8 of these.

1.2 Purpose of this chapter update

- 1.2.1 The Proposed Development falls within Schedule 2 of *The Town and Country Planning (Environmental Impact Assessment) (Wales) Regulations 2017 (as amended)*⁵ (the 'EIA Regulations'). An EIA was undertaken, and an Environmental Statement (ES) submitted in 2019⁶ alongside the planning application for the approved scheme, as referenced in paragraph 1.1.1. A technical note was also submitted in June 2019 in response to a Regulation 19 request by NPTCBC for Further Environmental Information (FEI)⁷.
- 1.2.2 It has been agreed with NPTCBC that the potential environmental effects arising from the proposed increase in rotor diameter, and reduction in turbine numbers, can be presented in an addendum to the 2019 ES and 2019 FEI. This addendum was submitted in May 2022.
- 1.2.3 The NPTCBC Biodiversity Officer has also requested that further ornithological surveys are undertaken to understand its current usage by protected species and potential effects arising from the proposed increase in rotor diameters. Winter bird surveys have been undertaken during 2021/22 and breeding bird surveys were completed between March – July 2022.
- 1.2.4 This ES Addendum Ornithology Chapter Update provides updated assessment and conclusions taking into consideration data collected in 2021 and through to July 2022. Further to this, the results of the 2017-18 vantage point surveys have been re-analysed taking into consideration the

⁴ Town and Country Planning Act 1990 [online]. Available at: <https://www.legislation.gov.uk/ukpga/1990/8/contents> [Accessed 17 January 2022]

⁵ Town and Country Planning (Environmental Impact Assessment) (Wales) Regulations 2017 [online]. Available at: <https://www.legislation.gov.uk/wsi/2017/567/contents> [Accessed 18 November 2021].

⁶ Wood (2019). Foel Trawsnant Wind Farm Amended Scheme: Environmental Statement. Doc ref 40217rr066i1

⁷ Wood (2019). Foel Trawsnant Wind Farm Amended Scheme: Further Environmental Information. Doc ref 40217-WOD-XX-XX-J-TR-0001

changes in the distribution and nature of the proposed turbines and changes to recommended best practice to inform collision risk modelling.

2. Approach to Environmental Assessment

- 2.1.1 As identified in The Town and Country Planning (Environmental Impact Assessment) (Wales) Regulations 2017 ('the EIA Regulations') one of the requirements of an ES is to set out the conclusions that have been reached about the likely significant environmental effects resulting from the Proposed Development.
- 2.1.2 For the ES addendum the scope of the detailed assessment for the Proposed Development has been established by assessing whether the proposed differences between the approved development and the Proposed Development have the potential to result in a change to the conclusions previously made in the 2019 ES and FEI and result in new or different likely significant effects.
- 2.1.3 The approach to significance evaluation methodology for this ES addendum is the same as described in Chapter 2 of the 2019 ES, and within the individual technical chapters of that document, and is not repeated here. Details of topic-specific assessment methodologies are provided in Chapters 7-17 of the 2019 ES as appropriate.

3. Ornithology

3.1 Introduction

- 3.1.1 This updated chapter of the ES addendum assesses the likely significant effects of the Proposed Development with respect to ornithology, taking into account the proposed amendments to the application. The chapter should be read in conjunction with the development description and planning policy provided in **Chapters 1-6 of the ES addendum**.

3.2 Limitations of this assessment

- 3.2.1 A considerable programme of baseline data collection has been carried out at the Proposed Development starting in 2008 and with more recent surveys taking place between 2018 and 2019. Due to the age of the most recent data updated verification surveys with respect to ornithology were commenced in December 2021 and were completed in July 2022.
- 3.2.2 The conclusions of the original ES (Amec 2014)⁸ (hereafter referred to as the '2014 ES') and subsequent update from 2019 (Wood 2019)⁹ (hereafter referred to as the '2019 ES') have been re-evaluated, taking into account the proposed changes to the layout and specification of the turbines.

3.3 Relevant legislation, planning policy, technical guidance

Legislative context

- 3.3.1 The following legislation is relevant to the assessment of the effects on ornithology:
- Council Directive 2009/147/EC on the conservation of wild birds (the codified version of Council Directive 79/409/EEC as amended) (commonly referred to as the Birds Directive);
 - The Conservation of Habitats & Species Regulations 2017;
 - The Environment (Wales) Act 2016; and
 - Wildlife and Countryside Act 1981 (as amended).

Planning policy context

- 3.3.2 **Table 3.1** lists the issues from the relevant national and local planning policies that have been considered in assessing ornithological effects.

⁸ Amec (2014). Foel Trawsnant Wind Farm Environmental Statement: Chapter 10, Ornithology (doc ref. 24311rr073i1).

⁹ Wood (2019) Foel Trawsnant Wind Farm Amended Scheme. Environmental Statement: Chapter 10 Ornithology. Report produced by Wood PLC for Pennant Walters (FoelT) Limited.

Table 3.1 Summary of planning policy issues considered in preparing the ornithology assessment

Policy reference	Policy issues
National planning policies	
Planning Policy Wales – Chapter 6 Distinctive and Natural Places (11th Ed.; 2021)¹⁰	Chapter 6 of Planning Policy Wales (PPW) sets out the Welsh Government's objectives for Distinctive and Natural Places theme of planning policy topics covers historic environment, landscape, biodiversity and habitats, coastal characteristics, air quality, soundscape, water services, flooding and other environmental (surface and sub-surface) risks. In particular, the Biodiversity and Resilience of Ecosystems section puts emphasis on planning authorities to have regard for the State of Natural Resources Report (SoNaRR) and Area Statements published by Natural Resources Wales.
Technical Advice Note (TAN) 5: Nature Conservation and Planning (2009)	TAN5 provides advice about how the land use planning system should contribute to protecting and enhancing biodiversity conservation within Wales. It sets out the key principles of planning for nature conservation for both local development plans and when deciding planning applications that may affect nature conservation. These include: • promoting the conservation and enhancement of statutorily designated areas and undeveloped coast; • ensuring that appropriate weight is attached to designated sites of international, national and local importance; • protecting wildlife and natural features in the wider environment; • ensuring that all material considerations are taken into account and decisions are informed by adequate information about the potential effects of development on nature conservation; • ensuring that the range and population of protected species is sustained; and • avoiding harm to nature conservation, minimising unavoidable harm by mitigation measures, offsetting residual harm by compensation measures and looking for new opportunities to enhance nature conservation.
Development plan policies	
Neath Port Talbot Local Development Plan 2011-2026 (2016)	Policy SP15 (Biodiversity & Geodiversity) sets out the approach to the protection, conservation, enhancement and management of important habitats, species and sites of geological importance. Important habitats, species and sites of geological interest will be protected, conserved, enhanced and managed through the following measures: 1. The identification of the following Internationally and Nationally designated sites within the County Borough to enable their protection: (a) Special Areas of Conservation (SACs) and Ramsar Sites; (b) Sites of Special Scientific Interest (SSSIs); (c) National Nature Reserves (NNRs). 2. The identification and protection of sites of regional and local importance. 3. The protection of important natural heritage features. Policy EN 6 (Important Biodiversity and Geodiversity Sites) states that proposals that would affect Regionally Important Local Nature Reserves (LNRs), Sites of Interest for Nature Conservation (SINCs), sites meeting SINC criteria or sites supporting Local Biodiversity Action Plan (LBAP) or S7 Environment (Wales) Act 2016 habitats or species, will only be permitted where they conserve and where possible, enhance the importance of the site, or the development could not reasonably be located elsewhere. Mitigation/compensation will need to be agreed where adverse effects are unavoidable. Policy EN 7 (Important Natural Features). Development proposals that would adversely affect ecologically or visually important natural features such as trees, woodlands, hedgerows / field boundaries, watercourses or ponds will only be permitted where:

¹⁰ Welsh Government (2021) *Planning Policy Wales, Edition 11, February 2021* Available at: https://gov.wales/sites/default/files/publications/2021-02/planning-policy-wales-edition-11_0.pdf. [Accessed 25/02/2021]

Policy reference	Policy issues
	1. Full account has been taken of the relevant features in the design of the development, with measures put in place to ensure that they are retained and protected wherever possible; or 2. The biodiversity value and role of the relevant feature has been taken into account and where removal is unavoidable, mitigation measures are agreed.
Biodiversity and Geodiversity: Supplementary Planning Guidance (2018)	The Biodiversity and Geodiversity: Supplementary Planning Guidance (SPG) was adopted by Neath Port Talbot County Borough Council in May 2018. The SPG sets out guidance for interpretation of the biodiversity and geodiversity policies of the LDP (SP15: Biodiversity and Geodiversity; EN6: Important Biodiversity and Geodiversity Sites and EN7: Important Natural Features). The SPG sets out an approach to consider biodiversity holistically in the application process.

Technical guidance

3.3.3 The main issues relating to birds and wind farms to be re-considered within this ES addendum chapter are:

- Any changes to the effects from direct habitat loss due to land take by wind turbine bases, tracks and other infrastructure.
- Any changes to the effects of indirect habitat loss resulting from the displacement of birds from the proximity of wind turbines. Such disturbance may occur as a consequence of construction work, or due to the presence of the wind farm close to nesting or feeding sites, or on regular flight paths.
- Any changes to the effects of collisions with turbine blades, overhead wires and guy lines (i.e. killing or injury to birds) which is of particular relevance for sites regularly used by certain species of raptor and/or large concentrations of wildfowl.

3.3.4 To assess the potential effects of a wind farm, both the value of the Proposed Development site itself to birds and the level of flight and other activity within and around the Proposed Development site should be determined. To date, Natural Resources Wales (NRW) has not developed specific guidance for assessing the effects of wind farms on ornithological interest. However, specific guidance has been developed by Scottish Natural Heritage (SNH) and Natural England (see below for references) which are generally accepted as the guidance to use in assessing wind farm proposals in the UK.

3.3.5 The following guidance was referred to throughout the 2019 ES and further considered as part of this assessment:

- Scottish Natural Heritage (2000). *Methodology for assessing the effects of wind farms on ornithological interests*. SNH Guidance Note Series.
- Scottish Natural Heritage (2002). *Survey methods to assess wind farm impacts on upland bird communities*. SNH, Battleby.
- Scottish Natural Heritage (2017). *Recommended bird survey methods to inform impact assessment of onshore wind farms*. <http://www.snh.gov.uk/docs/C278917.pdf>.
- Scottish Natural Heritage (2006, updated in 2018). *Assessing significance of impacts from onshore windfarms on birds outwith designated areas*. SNH, Battleby.
- Natural England (2010). *Assessing the effects of onshore wind farms on birds*. Technical Information Note 069.

- 3.3.6 SNH guidance on the assessment of the effects of wind farms on ornithological interests (SNH, 2000) suggests that assessment should concentrate on Target Species, for example those specially protected or those which occur at a site in regionally or nationally important numbers, as follows:
- Species protected under Schedule 1 of the *Wildlife & Countryside Act 1981* (as amended).
 - Species listed on Annex 1 of the *Council Directive 2009/147/EC on the conservation of wild birds (the codified version of Council Directive 79/409/EEC as amended)* (commonly referred to as the Birds Directive).
 - Regularly occurring migratory species which are either rare or vulnerable or warrant special consideration on account of the proximity of migration routes, or breeding, moulting, wintering or staging areas in relation to the proposed wind farm.
 - Species occurring at the site in regionally or nationally important numbers.
 - Ornithological qualifying features of SPAs, Ramsar sites and SSSIs.
- 3.3.7 This target species approach is further advocated in SNH's guidance on survey methods for use in assessment of the impacts of onshore wind farms on bird communities (SNH, 2005 updated in 2017)¹¹. These criteria are of equal relevance to Wales as the basis for the determination of target species is UK and European wide legislation and the proportion of national and regional populations that are present on a site.

3.4 Data gathering methodology

Desk study

- 3.4.1 A detailed desk study was undertaken in support of the 2019 ES.
- 3.4.2 The presence of SPAs and Ramsar sites within 20km and SSSIs with an ornithological interest within 10km of the Proposed Development site was determined by accessing the Multi-Agency Geographical Information for the Countryside (MAGIC) website¹². Details of cited features of designated sites were obtained from the NRW website¹³.
- 3.4.3 Ornithological data was requested from the South East Wales Biological Records Centre (SEWBReC) to include records of all protected species, Species of Principle Importance for the conservation of biodiversity, or other conservation-notable species recorded within 2km of the Proposed Development site. Additional ornithological records were also obtained from the Royal Society for the Protection of Birds (RSPB) to include records of protected or notable species within 5km of the Proposed Development site. Records of notable species have been summarised to include:
- Species listed under Schedule 1 of the *Wildlife & Countryside Act 1981* (as amended);
 - Species listed under the red list of Birds of Conservation Concern (BoCC) (Eaton *et al.*, 2015)¹⁴;
 - Species listed under Section 7 of the Environment (Wales) Act 2016; and

¹¹ SNH (2017). Recommended bird survey methods to inform impact assessment of onshore wind farms. <http://www.snh.gov.uk/docs/C278917.pdf>.

¹² <http://magic.defra.gov.uk/>

¹³ <https://naturalresources.wales/guidance-and-advice/environmental-topics/wildlife-and-biodiversity/find-protected-areas-of-land-and-seas/designated-sites/?lang=en>

¹⁴ Eaton, M.A., Aebischer, N.J., Brown, A.F., Hearn, R., Lock, L., Musgrove, A.J., Noble, D.G., Stroud, D. and Gregory R.D. (2015). 'Birds of Conservation Concern 4: the population status of birds in the United Kingdom, Channel Islands and the Isle of Man.' In: *British Birds* 108, pp708-746.

- Species identified within relevant Local Action Plans.

3.4.4 Sources of information used for the Ornithology assessment are listed in **Table 3.2**.

Table 3.2 Sources of desk study information

Source	Data
NRW	Cited features of designated sites from NRW website (https://naturalresources.wales/guidance-and-advice/environmental-topics/wildlife-and-biodiversity/find-protected-areas-of-land-and-seas/designated-sites/?lang=en).
http://magic.defra.gov.uk/	Statutory designated sites of national and international importance within 10km and 20km of the Proposed Development site respectively
SEWBRcC	Records of protected and notable bird species within 2km of the Proposed Development site
RSPB	Records of protected and notable bird species within 5km of the Proposed Development site

Survey work

3.4.5 An extensive programme of baseline surveys was carried out in support of the 2014 ES and 2019 ES. **Table 3.3** provides a summary of the surveys completed.

Table 3.3 Summary of surveys completed between 2008-19

Survey Period	Survey Type	Summary of Effort	Key Results
2008-2009 (non-breeding)	Winter walkover	7 visits November-January Open habitats within a 1km buffer	Red kite was the only target species recorded during walkover surveys and was recorded on one occasion. Two secondary species were recorded; golden plover and snipe: a flock of 38 golden plover was flushed from open grassland from the centre of the site, whilst snipe was recorded sporadically within the site in small numbers (1-2 birds).
2008-2009 (non-breeding)	VP surveys	November 2008-January 2009 21 hours VP1 21 hours VP2	Two target species were recorded: red kite and hen harrier, though the level of activity recorded for the two species was limited (with three flights recorded for red kite and two flights for hen harrier).
2009-2010 (non-breeding)	Winter walkover	14 visits November-March Open habitats within a 1km buffer	Peregrine and goshawk were the only target species recorded during walkover surveys and were recorded on three and one occasion respectively. Two secondary species were recorded; golden plover and snipe: a flock of 50 golden plover was recorded loafing on rough grassland within the centre of the site, whilst snipe was recorded sporadically within the site in small numbers (1-2 birds).
2009-2010 (non-breeding)	VP surveys	November 2009-April 2010 36 hours VP1 39 hours VP2	Four target species were recorded: peregrine, red kite, goshawk and merlin (with three flights recorded for peregrine, eleven flights for red kite, two flights for goshawk and two flights for merlin).
2010 (breeding)	VP surveys	April-October 2010 36 hours VP1 (30 hours April-August) 36 hours VP2 (30 hours April-August)	Four target species were recorded during the vantage-point watch surveys: red kite, marsh harrier, goshawk and peregrine (with ten flights recorded for red kite, one flight for marsh harrier, five flights for goshawk and one flight for peregrine).
2010 (breeding)	Moorland bird surveys (MBS)	3 visits April-June	The site supported a sparse breeding passerine assemblage typical of the habitats present (upland pasture and rough grazing, scattered gorse scrub and flushed or boggy ground), comprising meadow pipit, skylark, linnet, wheatear, pied wagtail, reed bunting and stonechat. No wader species were recorded breeding.
2010 (breeding)	Nightjar walkover surveys	2 visits July	A single nightjar territory was recorded on 8 July 2010 and 27 July 2010 just outside the site boundary within the plantation woodland to the south.
2010 (breeding)	Breeding raptor walkover surveys	3 visits April-June	No territories or evidence of breeding by protected raptors were recorded during the raptor walkover surveys

Survey Period	Survey Type	Summary of Effort	Key Results
2010 (breeding)	Point counts	4 visits at five locations April-July	Twenty-three species were recorded during point counts. Most of the birds detected were common species associated with either coniferous woodland such as chaffinch, goldcrest, coal tit, lesser redpoll and siskin; on successive or regenerative scrubby ground such as willow warbler, whitethroat, bullfinch and wren; as well as ubiquitous species with a range of habitat preferences including wood pigeon, song thrush, mistle thrush, jay and chaffinch.
2012	VP surveys	April-August 2010 42 hours VP1 42 hours VP2	Three target species were recorded: red kite, goshawk and peregrine though the level of activity recorded for the three-raptor species was limited (with four flights recorded for red kite, three flights for goshawk and two flights for peregrine).
2012	Moorland bird surveys (MBS)	3 visits April-June	Similar to 2010, the site supported a sparse breeding passerine assemblage typical of the habitats present (upland pasture and rough grazing, scattered gorse scrub and flushed or boggy ground), comprising meadow pipit, skylark, linnet, wheatear, pied wagtail, reed bunting and stonechat. No wader species were recorded breeding.
2012	Nightjar walkover surveys	2 visits June-July	A single nightjar territory was recorded on 18 June 2012 and 16 July 2012 off-site to the south within plantation woodland and a short distance to the west of the southern access track.
2012	Honey buzzard vantage point watches	6 watches from one VP, totalling 18 hours between May-July	No honey buzzards were recorded but three other raptor species were: goshawk, peregrine and red kite.
2012	Breeding raptor walkover surveys	6 visits May-July	No territories or evidence of breeding by protected raptors were recorded during the raptor walkover surveys
2012	Point counts	3 visits at five locations April-June	Twenty-four species were recorded during point counts. Most of the birds detected were common species associated with either coniferous woodland such as chaffinch, goldcrest, coal tit, lesser redpoll and siskin; on successive or regenerative scrubby ground such as willow warbler, whitethroat, bullfinch and wren; as well as ubiquitous species with a range of habitat preferences including woodpigeon, song thrush, mistle thrush, jay and chaffinch. Notably, firecrest was recorded holding territory within Michaelston Plantation. Crossbill was recorded calling from plantation woodland adjacent to the site, whilst tree pipit and cuckoo were both recorded calling from plantation woodland off site.
2012-2013	Winter walkover	22 visits October 2012-March 2013 Open habitats within a 1km buffer	Red kite, goshawk and peregrine were the only target species recorded during walkover surveys; all three were recorded on one occasion. Two secondary species were recorded, golden plover and snipe: a flock of 25 golden plover was flushed from open grassland from the centre of the site, whilst snipe was recorded sporadically within the site in small numbers (1-2 birds).
2012-2013	VP surveys	September 2012-March 2013 39 hours VP1	Four target species were recorded: red kite, goshawk, peregrine and hen harrier (with eight flights recorded for red kite, five flights for goshawk, five for peregrine and three for hen harrier).

Survey Period	Survey Type	Summary of Effort	Key Results
		42 hours VP2	
2015	Breeding honey buzzard surveys	10 visits between May-July	No breeding locations were found within 2km of the site boundary. Only four sightings were recorded, all at least 2km from the western or northern edges of the proposed site. These were considered to relate to foraging activity from a known nest site located 4km from the site.
2017-2018	VP Surveys	November 2017-March 2018 36 hours VP1 36 hours VP2	Three target species were recorded: red kite (24 flights), goshawk (6 flights) and golden plover (6 flights of flocks between 9 and 36 individuals).
2018	VP Surveys	April 2018 – July 2018 36 hours VP1 36 hours VP2	Three target species were recorded: red kite (23 flights), goshawk (7 flights), peregrine (2 flights). No flights (based on the consented development) were recorded at potential collision height.
2018	Moorland Bird Survey and territory mapping	April 2018 – July 2018 Four visits	Target species recorded included skylark, lesser redpoll, cuckoo, reed bunting and tree pipit. The only species recorded regularly within moorland/grassland habitats were skylark and meadow pipit.
2018	Nightjar walkover surveys	June and July 2018 Two visits	Five churring males/territories were identified though two of these were located within 500m of the access track but >500m from any turbine locations.
2018	Breeding Raptor Surveys (including Honey Buzzard effort)	April 2018 – August 2018	Breeding raptor surveys recorded breeding activity/territorial behaviour for red kite and goshawk. No breeding territories of either species were recorded within 1km of the consented development with all potential nest locations in woodland off-site. Additional effort was undertaken targeting the main migratory period for honey buzzard (mid-late May) with additional, informal vantage point surveys overlooking surrounding woodland completed.
2018	VP Surveys	August 2018-October 2018 18 hours VP1 18 hours VP2	Target species recorded included: Red kite (7 flights), Goshawk (1 flight), Pintail (1 flight) Merlin (3 flights) and Hen Harrier (1 flight). No flights (based on the consented development) were recorded at potential collision height.
2018-19	Winter walkover surveys	October 2018 – March 2019	Winter walkover surveys during 2018-2019 recorded small numbers of notable non-breeding bird species. This included individual sightings of merlin and hen harrier along with records of resident species including skylark, and red kite.

3.5 Overall baseline

Current baseline

Desk study

- 3.5.1 Full results from the desk study are provided in the Appendix 10B of the 2019 ES.
- 3.5.2 There are no SPAs or Ramsar sites designated for any ornithological interest within 20km of the Proposed Development site. There are however, two SSSIs within 10km of the Proposed Development site that list ornithological interest. The details of the SSSIs are provided in **Table 3.4**. No new designated sites with ornithology interest features have been identified compared to the 2019 ES results.
- 3.5.3 In total 43 notable species were recorded including various species typical of the habitats found on site or within the wider area. This included:
- Species listed on Schedule 1 of the Wildlife and Countryside Act 1981 (including red kite, common crossbill and goshawk);
 - Species listed on Section 7 of the Environment (Wales) Act 2016) (including nightjar, cuckoo, skylark and golden plover); and
 - Species listed on the red list of the Birds of Conservation Concern (including lesser redpoll, tree pipit and wood warbler).

Table 3.4 Statutory designated sites

Site name	Approximate distance and direction from Site	Reasons for designation/notification	Potential connectivity with the Site (Connectivity distances reported from SNH (2016) ¹⁵)
Eglwys Nunydd Reservoir SSSI	8.9km southwest	The largest area of fresh water in the county. The reservoir attracts large numbers of wintering waterfowl and passage migrants. Notable species include: great crested grebe, little grebe, mallard, gadwall, and coot now breed.	Unlikely, given there are no suitable habitats for the notified species within the Proposed Development site, and distance from the SSSI and the Proposed Development site.
Mynydd Ty-Isaf, Rhondda SSSI	7.9km northeast	The SSSI is primarily notified for its Arctic-alpine flora associated with the cliffs. The description for the SSSI also notes that the higher crags provide nesting sites for a Schedule 1 raptor species.	Unlikely, given the habitats within the proposed development site provide limited foraging opportunities, and the distance from the SSSI and the Proposed Development site.

Field Surveys

- 3.5.4 Full results from the previous surveys are provided as Appendices to the 2014 ES and the 2019 ES. A short summary of the survey results and assumed baselines for key receptors is provided in **Table 3.5**.

¹⁵ SNH (2016). Assessing connectivity with Special Protection Areas. Scottish Natural Heritage Guidance Note, Version 3, June 2016.

Table 3.5 Summary of survey results and assumed baselines for assessment in 2014 and 2019 Environmental Statements

Receptor	2014 ES Baseline	2019 ES Baseline
Red Kite	Red kite were recorded regularly but infrequently during vantage point surveys completed during 2008, 2009, 2010 and 2012 and 2013. Localised increases of flights were observed, associated with the presence of carrion with the viewshed, however flights were widespread and infrequent in all seasons of survey. Breeding raptor surveys did not confirm the presence of any breeding territories within 2km of the approved development.	Red kite were recorded regularly within the approved development during vantage point surveys, though greater levels of activity typically occurred offsite, over woodland to the north and west of the site. Breeding raptor surveys (including ad hoc vantage point observations) recorded a number of immature birds and evidence of breeding attempts including courtship flights and territorial behaviour. Observations suggested that there was one active red kite territory within 2km of the site and a second 2-3km of the site.
Goshawk	Goshawk were recorded infrequently with low numbers (<10) of flights recorded during vantage point surveys. Flights were typically recorded over nearby woodland plantations rather than the approved development site. Breeding raptor surveys did not confirm the presence of any breeding territories within 2km of the approved development.	Regular flights were recorded in the forestry approximately 1km north of the Proposed Development site with displaying birds recorded during vantage point surveys from VP2. A single bird was also recorded being mobbed by a red kite, also during a vantage point survey. Flights were also recorded to the south of the site typically between 1 and 2km from the Proposed Development in the area around Mynydd Bach. Observations suggest that there were two active goshawk territories within 2km and a third territory between 2km and 5km of the site.
Honey Buzzard	Dedicated vantage point surveys for honey buzzard, completed in 2012 did not record any observations of honey buzzard. Further dedicated surveys completed in 2015 identified a nest site within 4km of the approved development boundary though results suggested no breeding within 2km of the site.	Not observations of honey buzzard were made within 2km of the approved development site. Dedicated watches were undertaken during the peak migratory period in May with no observations made.
Skylark	Skylark were the most prevalent species recorded during moorland bird surveys in 2010 and 2012 with recorded 22 and 19 territories within the survey area respectively.	Skylark was the most prevalent species recorded breeding during the moorland bird survey with up to 30 territories identified. These were widespread across the moorland habitats that dominate the hilltop.
Nightjar	Nightjar surveys in 2010 recorded a single territory within 500m of the approved development boundary, located within the woodland to the south of the proposed windfarm location.	Nightjar were restricted to areas of clear fell forestry and immature plantation woodland within 500m of the approved development. Up to three churring males were recorded to the south

Receptor	2014 ES Baseline	2019 ES Baseline
	In 2012 a single territory was recorded to the west of the main access track to the south of the proposed windfarm location.	and west of the proposed location for Turbine 6 with a further two territories located to the west of the proposed access track (>500m from any turbine locations).
Golden Plover	Golden plover were recorded infrequently during winter walkover surveys in 2008/9, 2009/10, 2012/13 with a peak counts of 38, 50 and 25 individuals respectively.	Golden plover were recorded infrequently during vantage point surveys between 2017 and 2018. A peak count of 36 birds was recorded on the 14 March 2018. Golden plover were not recorded during winter walkover surveys completed between 2018 and 2019.
Woodland assemblage (breeding)	Point counts completed in 2010 recorded species associated with woodland and plantation including crossbill, tree pipit and cuckoo. A single firecrest was also recorded within the Michaelston Plantation.	Notable species associated with the woodland present immediately to the south of the approved development boundary included cuckoo, mistle thrush, lesser redpoll and tree pipit. These occurred in low numbers (<5 territories) within the survey buffer in habitats not directly impacted but the approved development.
Moorland assemblage (breeding)	The moorland bird assemblage was relatively limited with linnet, meadow pipit, stonechat and wheatear occurring (in addition to Skylark) in 2010. In 2012, three cuckoo were recorded to the south of the site in boggy ground.	The moorland bird assemblage was relatively limited with skylark (detailed above), linnet and reed bunting (occurring around wetter areas) the only notable species recorded. Other common and widespread species included meadow pipit.
Moorland assemblage (non-breeding)	Winter walkover surveys and vantage point surveys recorded individual hen harrier and merlin infrequently within the site. Other species recorded during winter walkover surveys included fieldfare, snipe and redwing.	Winter walkover surveys during 2018-2019 recorded small numbers of notable non-breeding bird species. This included individual sightings of merlin and hen harrier along with records of resident species including skylark, and red kite.

Update Surveys 2021-2022

- 3.5.5 Formal consultation with NPTCBC was undertaken on 07 February 2022 to discuss the scope of any verification surveys with respect to ornithology. The following survey/desk study updates have been agreed and completed during 2021 and 2022:
- Update Non-breeding and breeding period Vantage Point Surveys – this has included 36 hours of monitoring (at each VP) completed between December 2021 and March 2022 (non-breeding period) and March 2022 with further surveys completed in July 2022 (breeding period);
 - Moorland Bird Survey/Territory Mapping Verification – three survey visits undertaken between April and June to verify no changes in the breeding bird assemblage; and
 - Updated desk study information relating to Honey Buzzard within Neath Port Talbot to be provided.
- 3.5.6 The outputs of the surveys are provided in **Appendix A: 2021-2022 Baseline Survey Update**. Updated information with relation to Honey Buzzard is provided in **Confidential Appendix B: Honey Buzzard Baseline Update**.

Vantage Point Surveys

- 3.5.7 Six target species (as defined in **Section 2.2**) were recorded during the VP surveys undertaken from December 2021 – July 2022 inclusive: red kite (non-breeding and breeding season), goshawk, golden plover, peregrine, hen harrier and short-eared owl (all recorded during the non-breeding season only). The flight lines for the target species are shown in **Appendix A, Figures 3.1 – 3.4** respectively. The short-eared owl was recorded perched during a survey and not recorded as flying, therefore no flight data was available.
- 3.5.8 **Tables 3.6 and 3.7** presents a summary of the flights of target species recorded during the VP surveys, including the number of flights recorded within the core survey area (within the 2km viewsheds and the duration the flights at Potential Collision Height (PCH) in (i.e. between 10-150m height) within the Collision Risk Zone (CRZ) boundary. The CRZ is defined as a 500m buffer around the proposed turbine locations.

Table 3.6 Summary of flights by target species: winter 2021/22

Species	No. of observations within the survey area (i.e. within the 2km viewsheds)	Total flight duration* within the survey area (i.e. within the 2km viewsheds)	No. of observations within the CRZ	Total flight duration at PCH in the CRZ
Red kite	44	6,285	29	2116
Goshawk	4	570	2	195
Golden plover	13	24,900	12	13,659
Hen Harrier	2	300	2	74
Peregrine	4	465	1	45

*Total flight duration equals the number of birds X the length of the flight, so for a flock of 10 golden plover, a 15 second flight results in 150 second total flight duration (10 bird x 15 second flight = 150 seconds total flight duration)

Table 3.7 Summary of flights by target species: Summer 2022

Species	No. of observations within the survey area (i.e. within the 2km viewsheds)	Total flight duration within the survey area (i.e. within the 2km viewsheds)	No. of observations within the CRZ	Total flight duration at PCH in the CRZ
Red Kite	28	3,705	17	956

Moorland Bird Survey/Territory Mapping

3.5.9 Updated breeding bird surveys completed in 2022 recorded a similar assemblage of notable bird species within the Proposed Development when compared to the results of the 2018 surveys. Full details are provided in **Appendix A**. Notable species recorded as holding territory included;

- Skylark;
- Willow Warbler;
- Mistle Thrush; and
- Linnet.

3.5.10 Other notable species recorded but not identified as holding territory included;

- Cuckoo;
- Red Kite;
- Song Thrush; and
- Dunnock;

3.5.11 Other species recorded included widespread and ubiquitous species such as meadow pipit, blackbird, robin, wren and wood pigeon.

3.5.12 The distribution and composition of the breeding bird assemblage was broadly similar to those recorded in the previous surveys in 2017/18. The habitats that will be directly impacted by the proposed development support a typical upland assemblage that is dominated by skylark and meadow pipit. Other species associated with wetter parts of the site included willow warbler and cuckoo, however, no breeding waders were confirmed as using the habitats on site during these surveys.

3.5.13 **Figure 3.5, Appendix A** shows the approximate territory centres of any notable species identified and considered to be breeding.

Honey Buzzard Baseline Update

3.5.14 Updated information relating to ongoing monitoring of honey buzzard is provided within **Confidential Appendix B**.

Future baseline

3.5.15 In the absence of development, it is assumed that the baseline conditions on the Proposed Development site will remain as they are currently.

3.5.16 The future baseline is likely to alter due to the effects of climate change on bird productivity, survival rates and breeding ranges, with substantial changes in species ranges predicted during the

coming decades. Survey work represents a snapshot of the bird community at the time of the survey and cannot be extrapolated to predict future population trends in the wake of agricultural or climatic changes.

- 3.5.17 The habitats present on site have not significantly altered since 2019 and no significant change to the baseline is anticipated.

3.6 Scope of the assessment

- 3.6.1 The scope of the ornithology assessment for the approved development broadly followed the assessment methodology set out in the 2014 ES (Chapter 2: EIA Process) and 2019 ES (Chapter 2: Approach to Environmental Impact Assessment and Chapter 10: Ornithology), with regard to specific methods and criteria, including the CIEEM Guidelines (CIEEM, 2018)¹⁶. This assessment was based on the desk study and baseline data collection listed in Table 3.3.
- 3.6.2 Based on the baseline collected in support of the 2014 ES and 2019 ES, potential impacts were identified and scoped into the assessment for detailed assessment.
- 3.6.3 For this addendum the scope of the detailed assessment for the Proposed Development has been established by assessing whether the proposed differences between the approved development and the Proposed Development have the potential to result in a change to the conclusions previously made and result in new or different likely significant effects.
- 3.6.4 As the changes relate to increasing rotor diameter of all remaining turbines, with all ground level infrastructure, construction/decommissioning methods and embedded measures remaining unchanged, only those effects relating to collision risk and disturbance have the potential to change and will be subject to re-assessment.

Spatial scope

- 3.6.5 The spatial scope of the assessment of ornithology covers the same area as that detailed within the 2019 ES. This includes a desk-based search area of up to 20km and survey areas of the consented development boundary and an additional buffer of 2km. An extended survey area (up to 5km) was included for Honey Buzzard only.

Temporal scope

- 3.6.6 The temporal scope of the assessment for ornithology is consistent with the period over which the development would be carried out and therefore covers the construction and operational period of up to 25 years.

Potential receptors

- 3.6.7 **Table 3.88** provides a summary of the receptors identified and scoped in/out in the 2019 ES. Justification for including or excluding them from this updated assessment is provided along with verification of their "Importance".
- 3.6.8 Wherever possible, information regarding the population size, population trends and distribution of the ornithological features has been used to inform the categorisation described in Table 3.8 to determine importance at the legislative and project level. In respect of the Proposed Development at Foel Trawsant, the appropriate geographical units for identification of significance of impacts

¹⁶ Chartered Institute of Ecology and Environmental Management (CIEEM, 2018). Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater and Coastal. CIEEM, Winchester.

were deemed to be the UK (national), Wales (regional) and Glamorgan (county). A threshold of significance would therefore comprise those species present in county important numbers (> 1% Glamorgan population). Where detailed criteria or contextual data are not available, professional judgement was used to determine importance.

- 3.6.9 All ornithological features that were determined to have an importance at local or negligible level were scoped out of the assessment at this stage, as effects on them would not constitute a significant effect in EIA terms (i.e. a significant effect could not occur).

Table 3.8 Summary of the importance level of each identified receptor

Receptor	Importance – Legislation	Importance – Project	Scoping and justification
Red Kite (Breeding)	National	County	Scoped in Estimated 1-2 breeding pairs present within 2km of the site representing a potentially significant (> 1%) proportion of the county population
Goshawk (Breeding)	National	County	Scoped in Estimated 2 breeding pairs present within 1km of the site representing a potentially significant (> 1%) proportion of the county population
Peregrine (breeding)	National	Negligible	Scoped out No breeding pairs identified within 2km and an absence of suitable nesting ledges.
Golden Plover (Non-breeding)	National	County	Scoped in Up to 50 individuals were recorded on site during surveys between 2008 and 2019. representing a potentially significant proportion of the county population.
Nightjar	International	County	Scoped in Five territories identified in 2018 within 500m of the Proposed Development (including access tracks).
Other Notable Breeding Bird Species (including Dunnock, Grasshopper warbler, Skylark, Reed Bunting, Song Thrush, Tree Pipit)	National	Local – Negligible	Scoped out Numbers recorded did not represent a significant proportion of county (or regional) populations.

Scoping of Likely significant effects

- 3.6.10 The ornithology receptors that were previously taken forward for assessment are summarised as follows:

- Red Kite – Breeding.
- Goshawk – Breeding.

- Golden Plover – Non-Breeding.
- Nightjar – Breeding.

3.6.11

Table 3.99 provides a summary of the scoping of likely significant effects and highlights those previously scoped out and those taken forward for detailed assessment. This table also highlights where the original assessment outcome is unchanged or requires updated assessment.

Table 3.9 Summary of remaining likely significant effects, scoping outcomes from 2019 and confirmation of those effects requiring further consideration

Receptor	Likely Significant Effect	Scoping Outcome (2019 ES) and Justification	Updated Assessment Required
Red Kite	Land use change during construction resulting in the loss of foraging or nesting habitat	Scoped Out No Red Kite nest sites were identified within 500m of the Proposed Development and the wider area provides other suitable habitat for foraging.	No update required Land use change/habitat loss is reduced through reduction of number of turbines.
	Visual and aural disturbance during construction resulting in displacement from foraging or nesting habitat	Scoped Out No Red Kite nest sites were identified within 500m of the Proposed Development and suitable habitat for nest sites is absent.	No update required Suitable habitat for nesting Red Kite is not present immediately adjacent to the site. Proposed embedded measures will minimise potential disturbance impacts even if nests were identified within 500m of the construction area.
	Displacement or disturbance due to the presence of an operational windfarm	Scoped Out Red kite have been recorded foraging within operational windfarm with no significant displacement effects observed (Madders and Whitfield 2006) ¹⁷ .	No update required Assumed no change compared to the 2019 ES.
	Collision during operation resulting in mortality of individual birds	Scoped In A detailed assessment was updated and included in the 2019 ES (including Collision Risk Modelling).	Update required The changes to the design of the turbines increases the likelihood of collision occurring, even for species previously recorded as occurring in low numbers. Re-assessment of Collision Risk Modelling outputs has been undertaken and informed by updated survey data collected in both 2017/18 and 2021/2022.
Goshawk	Land use change during construction resulting in the loss of foraging or nesting habitat	Scoped Out No Goshawk nest sites were identified within 500m of the Proposed Development and the wider area provides other more suitable habitat for foraging.	No update required Land use change/habitat loss does not impact key habitats for this species.
	Visual and aural disturbance during construction resulting in displacement from foraging or nesting habitat	Scoped Out No goshawk nest sites were identified within 500m of the Proposed Development and suitable habitat for nest sites is absent.	No update required Suitable habitat for nesting goshawk is largely absent adjacent to the site. Proposed embedded measures will minimise potential disturbance impacts if nests were identified within 500m of the construction area.

¹⁷ Madders, M & Whitfield, D.P. (2006). Upland raptors and the assessment of wind farm impacts. Ibis, 148, 43–56.

Receptor	Likely Significant Effect	Scoping Outcome (2019 ES) and Justification	Updated Assessment Required
	Displacement or disturbance due to the presence of an operational windfarm	Scoped Out Goshawk do not regularly use open/grassland habitats and are unlikely to occur.	No update required Assumed no change compared to the 2019 ES.
	Collision during operation resulting in mortality of individual birds	Scoped Out Very low numbers of goshawk flights were recorded within the approved development.	Update required The changes to the design of the turbines increases the likelihood of collision occurring, even for species previously recorded as occurring in low numbers. Re-assessment of Collision Risk Modelling outputs has been undertaken and informed by updated survey data collected in both 2017/18 and 2021/2022.
Nightjar (Breeding)	Land use change during construction resulting in the loss of foraging or nesting habitat	Scoped Out Land use change and construction did not directly impact breeding habitats (clear fell, immature plantation) for this species.	No update required Assumed no change compared to the 2019 ES.
	Visual and aural disturbance during construction resulting in displacement from foraging or nesting habitat	Scoped Out Potential nest sites/habitats were within 100m of proposed working areas, however embedded measures and the distribution of this species made disturbance unlikely.	No update required Assumed no change compared to the 2019 ES.
	Collision during operation resulting in mortality of individual birds	Scoped Out No Nightjar flights were recorded within the approved development and Nightjar have been recorded as breeding within/adjacent to active windfarms (BSG 2021) ¹⁸ .	No update required Assumed no change compared to the 2019 ES.
Golden Plover (Non-Breeding)	Land use change during construction resulting in the loss of foraging or nesting habitat	Scoped Out Low numbers recorded infrequently. Land within Zone of Influence (ZoI) provides suboptimal foraging habitat and is well outside usual wintering range for species.	No update required Assumed no change compared to the 2019 ES.
	Visual and aural disturbance during construction resulting in displacement from foraging or nesting habitat	Scoped Out Low numbers recorded infrequently. Land within ZoI provides suboptimal foraging habitat and is well outside usual wintering range for species.	No update required Assumed no change compared to the 2019 ES.

¹⁸ BSG (2021) Nightjar Monitoring At Pen Y Cymoedd Wind Farm: No Evidence Of Displacement Of Breeding Birds. https://www.bsg-ecology.com/portfolio_page/nightjar-monitoring-at-pen-y-cymoedd-wind-farm-no-evidence-of-displacement-of-breeding-birds/

Receptor	Likely Significant Effect	Scoping Outcome (2019 ES) and Justification	Updated Assessment Required
	Displacement or disturbance due to the presence of an operational windfarm	Scoped Out Low numbers recorded infrequently. Land within ZoI provides suboptimal foraging habitat and is well outside usual wintering range for species.	No update required Assumed no change compared to the 2019 ES.
	Collision during operation resulting in mortality of individual birds	Scoped Out Collision Risk Modelling (CRM) predicted very low levels of collision that would not affect population at any level.	Update required The changes to the design of the turbines increases the likelihood of collision occurring, even for species previously recorded as occurring in low numbers. Re-assessment of Collision Risk Modelling outputs has been undertaken and informed by updated survey data collected in both 2017/18 and 2021/2022.

- 3.6.12 Given the nature of the changes, the scoping of effects for all other bird species is considered to remain valid. Appendix 10C of the 2019 ES provides a summary for all species and effects scoped out from full assessment.

3.7 Embedded environmental measures

- 3.7.1 A range of environmental measures were identified as being embedded into the development proposals as outlined in Chapter 10 of the 2019 ES. No additional measures or changes are proposed.

3.8 Assessment methodology

- 3.8.1 The generic project-wide approach to the assessment methodology is set out in Chapter 4, and specifically in Sections 4.5 to 4.7 of the 2019 ES. This has informed the approach that has been used in this ecology assessment, though it is necessary to set out how this methodology has been adapted and applied to address the specific needs of this ecology assessment. In this respect, the assessment has been aligned with the standard industry guidance provided by CIEEM (2018).
- 3.8.2 The approach to assessment follows that as outlined in Chapter 10 of the 2019 ES. This assessment is based upon the results of the 2019 desk study and supporting baseline information collected between 2012 and 2019. Updated survey results, collected between 2021 and 2022 have been used to verify or update these assessments.

3.9 Assessment of effects – Red Kite

Baseline conditions

Current baseline

- 3.9.1 Red kite is listed on Annex I of the Birds Directive and Schedule 1 of the WCA. In 2012, the UK population of red kite was estimated to be close to 2,500 pairs, including in excess of 1,000 pairs in Wales (Holling et al., 2014)¹⁹. The species was described as becoming more frequent and breeding in West Glamorgan, with birds reported from a total of 47 locations in 2011 (Grenfell, 2012)²⁰. In East Glamorgan, red kite is a locally common resident and rare breeder, mainly in the north (Wilson [ed] 2017)²¹. Numbers of red kite continue to increase in Wales and the UK, in the most recent update to "Birds of Conservation Concern" (Stanbury et al 2021)²² red kite was listed as "Green" with increasing population numbers and distribution.
- 3.9.2 During the surveys completed in 2017 and 2019 red kite were seen regularly in the wider area but only infrequently directly over the Consented Development boundary. Breeding raptor surveys suggested that 1-2 pairs may breed within 2km of the Proposed Development Site, however no active nests were identified within 500m of the red line boundary.

¹⁹ Holling, M. & the Rare Breeding Birds Panel (2014). Rare breeding birds in the United Kingdom in 2012. British Birds 107, pp 504-560.

²⁰ Grenfell, H.E. [ed] (2012). Gower Birds, the Birds of Swansea and Neath Port Talbot in 2011. Gower Ornithological Society.

²¹ Wilson, J. [ed] (2017). East Glamorgan Bird Report 2016 No.55. Glamorgan Bird Club.

²² Stanbury, A., Eaton, M., Aebischer, N., Balmer, D., Brown, A., Douse, A., Lindley, P., McCulloch, N., Noble, D., and Win I. (2021). The status of our bird populations: the fifth Birds of Conservation Concern in the United Kingdom, Channel Islands and Isle of Man and second IUCN Red List assessment of extinction risk for Great Britain. British Birds 114: 723-747

- 3.9.3 During the VP surveys, undertaken from November 2017-October 2018 a total of 54 flights of red kite were recorded within the wider survey area (within 2km viesheds+200m) including occasional pairs of birds. Flight activity was concentrated outside and to the east of the Proposed Development site with only 9 flights recorded at Potential Collision Height (PCH) (based on the approved development). When considering the change of turbines proposed and the amended layout, the number of flights that occurred at PCH increases to 29 within the Proposed Development. However, the number of observed flights by red kite was still relatively low when considered across the monitoring period 2017-2018.
- 3.9.4 During the updated surveys completed between December 2021 and July 2022, a total of 72 flights of red kite were recorded within the wider survey area. Flights crossed the Proposed Development site more frequently with 35 flights recorded at Potential Collision Height (PCH) based on the Proposed Development.
- 3.9.5 A summary of the number and length of flights for each observation period from November 2017-October 2018 is provided in Table 3.10 and for December 2021 – July 2022 in **Table 3.11**. These results suggest that flights of red kite have become more frequent in the wider area and within the site, in particular during the non-breeding period. This may reflect the national and regional trend for increasing populations of red kite.

Table 3.10 Summary of total numbers of flights and number of flights per hour of observation for red kite – 2017-18

Observation Period	Number of hours of monitoring	Number of flights	Total Length of Flight (seconds)	No. Flights per hour of survey
November 2017-March 2018	72 (36 hours per VP)	24	3,045	0.33
April 2018-July 2018	72 (36 hours per VP)	23	3,960	0.32
August 2018-October 2018	36 (18 hours per VP)	7	465	0.194

Table 3.11 Summary of total numbers of flights and number of flights per hour of observation for red kite – 2021 -22

Observation Period	Number of hours of monitoring	Number of flights	Total Length of Flight (seconds)	No. Flights per hour of survey
December 2021-March 2022	69 (33 at VP1 and 36 hour at VP2)	44	6,285	0.63
April 2022-July 2022	72 (36 hours per VP)	28	3,705	0.38

Predicted effects and their significance

Collision during operation resulting in mortality of individual birds

- 3.9.6 There is the potential for red kite to collide with turbine blades. Mortality from collision has the potential to lead to a decline in the local population of red kite. In view of this, Collision Risk Modelling based on red kite flight data collected from vantage point surveys undertaken during 2017/18 and 2021/22 was carried out. Modelling for red kite was carried out using at the recommended avoidance rate of 99% (SNH, 2017)¹¹.

- 3.9.7 The methods, workings and results of the original collision risk modelling for red kite were provided in Appendix 10D of the 2019 ES.
- 3.9.8 Updated Collision Risk Modelling results are presented in **Appendix C** to this chapter update. This includes updated analysis using the 2017/18 data and analysis of the data collected in 2021/2022. Best practice guidance published (SNH, 2018) has increased the recommended buffer distance for CRM. The data presented in the 2019 ES utilised a 300m buffer applied to the approved development boundary to define the "Windfarm Area". Updated advice now recommends that a 500m buffer is applied to identify those flights to include in the analysis.
- 3.9.9 For the previous assessment the CRM assumed a total of 11 turbines with an assumed rotor diameter of 90m and hub height of 100m resulting in a PCH of 55-145m.
- 3.9.10 Under the new proposals the number of turbines will be reduced to 8 with the maximum turbine height (blade tip) retained at 145m. As described in **Chapter 5** of the **ES Addendum**, the size of the rotor diameters would be increased to 133m on five of the turbines with the remaining three increased to 117m.
- 3.9.11 Taking into account the assumed hub height (78.5m and 86.6m respectively), the rotor swept area will increase such that the PCH range would be 12m to 145m for the 133m rotor diameter turbines and 28m to 145m for the 117m rotor diameter turbines. The change in design also increases the combined rotor swept area (i.e. the total area occupied by the turbines blades) from 69,978.96m² to 101,718.55m²
- 3.9.12 In the original analysis, because of the low number of flights recorded within the approved development and the original narrow PCH range, CRM was only possible for flights recorded during the non-breeding period, covering November 2017 – March 2018 inclusive. During the VP surveys undertaken from November 2017 to March 2018 inclusive, a total of 54 flights of red kite were recorded within the wider survey area (within the 2km viewsheds + 200m).
- 3.9.13 Results from the original CRM on the 2017/18 VP survey data predict that the potential rate of collisions for red kite (based on 85% operational time and 99% avoidance) would be 0.03 collisions per non-breeding season (a total of 0.86 birds over the anticipated life-span of the Proposed Development of 25 years).
- 3.9.14 The outputs of the updated analysis are summarised in **Table 3.12** and show the predicted number of collisions for red kite for both breeding and non-breeding season and a combined annual total.

Table 3.12 Summary of total predicted collisions for Red Kite

Season	Period	2017/18 Data	2021/2022 Data
Non-breeding (October – March)	Collision per year	0.325	0.425
	Collision per 25 years	8.13	10.61
Breeding (April – September)	Collision per year	0.25	0.241
	Collision per 25 years	6.27	6.05
Annual Total	Collision per year	0.575	0.666
	Collision per 25 years	14.4	16.66

- 3.9.15 The changes to the Proposed Development increase both the number of flights included and the range of heights at which collisions could now occur and this increases the number of predicted collisions when compared to the original predictions provided in the 2019 ES.
- 3.9.16 However, the number of predicted collisions per year is still less than one bird with 0.575-0.666 collisions predicted per year. When considered against the predicted life span of the project (25 years) this would result in between 14.4 and 16.66 collisions in total.
- 3.9.17 The effect of the loss of an individual bird on a population is influenced by several characteristics of the affected population, notably its size, density, recruitment rate (additions to the population through reproduction and immigration) and mortality rate (the natural rate of losses due to death and emigration). In general, the effect of an individual lost from the population will be greater for species that occur at low density, are relatively long lived and reproduce at a low rate.
- 3.9.18 No up-to-date population estimate for red kite in Neath Port Talbot or the former West Glamorgan area is available, though given the number of records reported in local bird reports it is likely to be at least 47 pairs (Holling *et al* 2014) and increasing across the former West Glamorgan county boundary. A breeding population of 47 pairs represents approximately 140-150 individual red kite (breeding adults plus an estimated numbers of non-breeding birds based on juvenile survival rates (BTO data, www.bto.org/birdfacts/)).
- 3.9.19 The annual mortality rate for adult red kite is 39% (BTO data, www.bto.org/birdfacts/) which represents 54-59 birds each year (based on the county population estimate of 140-150 birds). The additional mortality predicted by the CRM represents an increase between 1.1% and 1.2% of the background mortality for the county population assuming the upper level of 0.668 predicted deaths from collision each year.
- 3.9.20 Red kites are currently experiencing an increase in numbers across Wales and the UK, with key populations in Powys, Shropshire and Carmarthenshire which could result in movement of individual red kite between counties as they search for breeding locations. Research in Wales (Newton *et al* 2008)²³ suggests that individuals move up to 22km between birthplace and breeding place though many birds remain local to their chosen location year to year.
- 3.9.21 Whilst the loss of a bird every 1-2 years from the local population could have an impact at a local level, immigration into the area from neighbouring counties is likely to balance any loss through collision. If the population growth rate of red kite in Neath Port Talbot (or the wider West Glamorgan area) were to stabilise due to density dependent factors (such as the availability of

²³ Newton, I., Davis, P. E., and Davis, J. E. (2008) Age of first breeding, dispersal and survival of Red Kites *Milvus milvus* in Wales. *Ibis* 131(1):16-21

suitable breeding and foraging habitat) then the population would likely benefit from birds relocating into the area from neighbouring counties.

- 3.9.22 Based on the current design, observed flight activity levels and the outputs of CRM, the predicted effect of collision is of low magnitude and therefore not significant.

3.10 Assessment of effects: Goshawk

Baseline conditions

- 3.10.1 Goshawk is listed on Schedule 1 of the Wildlife and Countryside Act 1981 (as amended). The main centres of population within the UK are Wales/the Welsh Borders, the South Pennines, North-east Scotland and the English/Scottish Borders (Venables et al. 2007)²⁴. Within Wales, the main goshawk strongholds are in east and mid-Wales which includes Montgomeryshire. It is a fairly common, albeit very secretive species in woodlands with a preference for coniferous forests with frequent clearings and rides. The extensive plantings of the Forestry Commission across mid-Wales have provided much suitable habitat for goshawk as the trees have matured in recent years.
- 3.10.2 The Welsh population has been estimated at 200-250 pairs in 2000 (Green, 2002)²⁵ and more recently (in 2014), a total of 622 pairs were reported in the UK of which 163 were in Wales, 29 in East Glamorgan and 2 in Carmarthenshire and the population continues to increase in many parts of the UK including Wales (Holling et al., 2016)²⁶. In 2015, a total of 616 pairs were reported in the UK, of which 99 pairs were in Wales (Holling et al., 2017)²⁷ though this latter figure is considered to be a substantial under-estimate of the current Welsh population. Within West Glamorgan, goshawk is described as becoming more common with birds reported from six sites during the 2011 breeding season (Grenfell, 2012)²⁰. In East Glamorgan, the species is an increasingly reported resident breeder, with a single pair confirmed to have bred in 2016 (Wilson [ed] 2017)²¹.
- 3.10.3 Results from the breeding raptor survey in 2018 indicate that the Proposed Development site is located within the core ranges of two pairs of breeding goshawk. There is therefore the potential for breeding goshawk to occur within the Proposed Development site.

Predicted effects and their significance

Collision during operation resulting in mortality of individual birds

- 3.10.4 Very low levels of flight activity were recorded across the wider site area during the 2008-15 surveys and just one flight was recorded across the Proposed Development site (below original PCH) during the 2017-18 VP surveys. Usage of the site and any potential for collision with the turbines is predicted to be a very rare event and would result in a negligible effect on the regional population of goshawk.
- 3.10.5 Surveys completed between December 2021 and February 2022 have recorded four flights of goshawk with three occurring offsite over woodland in the Afan Valley. A single bird was recorded crossing the Proposed Development, flying directly north to south and into the woodland to the south of the Proposed Development.

²⁴ Venables, W.A., Baker, A.D., Clarke, R.M., Jones, C., Lewis, J.M.S. and Tyler, S.J. (2007). The Birds of Gwent. County Avifaunas. Christopher Helm.

²⁵ Green, J. (2002). Birds in Wales 1992-2000. Welsh Ornithological Society.

²⁶ Holling, M. & the Rare Breeding Birds Panel (2016). Rare breeding birds in the United Kingdom in 2014. British Birds 109, pp 491-545.

²⁷ Holling, M. & the Rare Breeding Birds Panel (2017). Rare breeding birds in the United Kingdom in 2015. British Birds 110, pp 725.

- 3.10.6 Observations of Goshawk from the 2021-2022 included 2 flights in total that occurred within the Proposed Development with 174 seconds of flight at PCH. Given this low number of flights it was not considered viable to carry out meaningful CRM analysis.
- 3.10.7 Based on the proposed design and observed flight activity levels the predicted effect of collision is of negligible magnitude and therefore not significant.

3.11 Assessment of effects: Golden Plover

- 3.11.1 Golden plover is listed on Annex I of the Birds Directive and is a priority species listed in Section 7 of the Environment (Wales) Act 2016. The species is also red-listed (in Wales) due to a rapid (>50%) decline in the Welsh breeding population over the past 25 years (Johnstone & Bladwell, 2016)²⁸ with only 70–90 pairs remaining, nearly half of which are on moorland within the Cambrian Mountains²⁹. The wintering population of golden plover was estimated to be 400,000 birds in Britain in 2006/07 (Musgrove et al., 2013)³⁰, and the five-year peak mean count from WeBS sites located entirely (or partly) in Wales for 2015/16 – 2019/20 was 15,723 birds³¹. This compares to co-ordinated counts across Wales totalling 18,000 birds in January 1977 (Lovegrove et al., 1994)³².
- 3.11.2 In West Glamorgan, golden plover is a former scarce breeding resident but fairly common passage visitor within Neath Port Talbot, with influxes in winter primarily to coastal areas (Grenfell, 2012)²⁰. The key site identified in WeBS counts between 2015/16-2019/20 was Burry Inlet with as many as 2,000 birds recorded. In East Glamorgan, the golden plover is also described as a fairly common passage migrant and winter visitor, again, mainly along the coast, with Sker Point being the main site, supporting 250-550 birds in 2016 (Wilson [ed] 2017). Estimates of non-breeding golden plover typically focus on counts made in coastal areas where low tide counts are completed. Flocks of birds which winter on suitable habitat away from coasts are likely to be unaccounted for in estimates.
- 3.11.3 During the winter walkover surveys undertaken at the Proposed Development site in 2008/09, 2009/10 and 2012/13, a total of three flocks of 50, 38 and 25 golden plover were recorded (resting and/or foraging) within the wider site area on a total of three survey dates (of 41). During this period, a total of five flights of golden plover of 28-50 birds were recorded on four VP survey dates. During winter 2017/18, a further six flights of 17-36 birds were noted on three survey dates. Ongoing surveys commenced in December 2021 have recorded ten golden plover flights with individual birds and flocks ranging between 4 and 58 individuals. Golden plover have been restricted to areas immediately to the east of the Proposed Development but are considered likely to forage or fly within this area. They have been recorded on 5 different dates between January and March
- 3.11.4 Results from the extensive programme of surveys undertaken from 2008-18 provides strong evidence to conclude that the Proposed Development site does not hold wintering or passage golden plover for any prolonged periods, and that low numbers of the birds (generally 25-50 individuals) occur sporadically in the area for short periods. This is likely due to the area providing suboptimal conditions for foraging (rough grassland), and/or is unsuitable for roosting/resting

²⁸ Johnstone, I. & Bladwell, S. (2016). Birds of Conservation Concern in Wales 3: the population status of birds in Wales. Birds in Wales, Volume 12, No.1, September 2016).

²⁹ RSPB Golden plover advisory sheet - http://www.rspb.org.uk/Images/Englishgoldenplover_tcm9-133252.pdf

³⁰ Musgrove, A., Aebischer, N., Eaton, M., Hearn, R., Newson, S., Noble, D., Parsons, M., Risely, K. and Stroud, S. (2013). Population estimates of birds in Great Britain and the United Kingdom. British Birds, 106, pp 88-89.

³¹ This figure is the sum of each 5-year peak mean count from each WeBS site counted in Wales obtained from the BTO website (www.bto.org). It is acknowledged that this figure could include some double recording of birds moving from one site to another, and that WeBS does not include many sites away from estuaries and wetlands that are used by golden plover.

³² Lovegrove, R., Williams, G & Williams, I. (1994). Birds in Wales. T & AD Poyser, London

birds. In addition, much of the wintering population resides in coastal areas of South Wales, and therefore the Proposed Development site lies well outside their usual wintering range. In view of this, the effects of displacement due to the presence of the wind turbines and disturbance during construction on golden plover are considered negligible.

Predicted effects and their significance

Collision during operation resulting in mortality of individual birds

- 3.11.5 There is the potential for golden plover to collide with turbine blades. Mortality from collision has the potential to lead to a decline in the local population of golden plover. In view of this, Collision Risk Modelling based on golden plover flight data collected from vantage point surveys undertaken during 2017/18 and 2021/22 was carried out. Modelling for golden plover was carried out using the recommended avoidance rate of 98% (SNH, 2017).
- 3.11.6 Results from the collision risk modelling following the 2017/18 surveys that was presented in the 2019 ES predicted that the potential rate of collisions for golden plover (based on 85% operational time and 98% avoidance) would be 0.18 collisions per non-breeding season (a total of 4.39 birds over the anticipated life-span of the Proposed Development of 25 years).
- 3.11.7 As described in paragraphs 3.9.8 – 3.9.11 the changes to the Proposed Development and updates to the approach to analysis increase the number and length of flights included and also increase the range of PCH which need to be considered. Based on these changes it would be expected that an increase in the number of predicted collisions considering the original data set collected in 2017/18 and the updated baseline collected in 2021/22 would occur.
- 3.11.8 The outputs of the updated analysis are summarised in **Table 3.13** and show the predicted number of collisions for Golden Plover for the non-breeding season based on the data collected in 2017/18 and 2021/22.

Table 3.13 Summary of total predicted collisions for Red Kite

Season	Period	2017/18 Data	2021/2022 Data
Non-breeding (October – March)	Collision per year	0.988	6.525
	Collision per 25 years	24.71	163.14

- 3.11.9 As expected, the number of predicted collisions has increased compared to the original predictions provided in the 2019 ES.
- 3.11.10 The number of predicted collisions per year is between 0.988 and 6.525 birds, which when considered against the predicted life span of the project (25 years) would result in between 25 and 163 collisions.
- 3.11.11 The effect of the loss of an individual bird on a population is influenced by several characteristics of the affected population, notably its size, density, recruitment rate (additions to the population through reproduction and immigration) and mortality rate (the natural rate of losses due to death and emigration). In general, the effect of an individual lost from the population will be greater for species that occur at low density, are relatively long lived and reproduce at a low rate.
- 3.11.12 No specific estimate for the non-breeding population of golden plover within Neath Port Talbot or the wider Glamorgan area is available. However, the results of BTO WeBS counts suggest that peak counts of golden plover in coastal areas typically range between 2,000 and 2,500 individuals. This is

likely to represent an underestimate for non-breeding populations with sites such as Foel Trawsant supporting flocks of golden plover that forage or roost at inland locations.

- 3.11.13 Assuming an estimated county population of between 2,000 and 2,500 individuals (for West Glamorgan), the loss of 6.525 individual birds would represent between 0.26 and 0.32% of the county non-breeding population. The annual mortality rate for adult golden plover is 27% (BTO data, www.bto.org/birdfacts/) which represents 540 - 675 birds each year (based on the county population estimate of 2,000 – 2,500 birds). The additional mortality predicted from the CRM represents an increase between 0.96% and 1.2% of the background mortality for the county population assuming the upper level of 6.525 predicted deaths from collision each year.
- 3.11.14 Whilst the loss of between 1-7 birds every year from the local non-breeding population could have a minor impact at a local level any loss would be undetectable when considered against background mortality levels and variation in annual numbers for non-breeding birds when compared to the overall county population.
- 3.11.15 Based on the current design, observed flight activity levels and the outputs of CRM, the predicted effect of collision is of low magnitude and therefore not significant.

3.12 Conclusions of significance evaluation

- 3.12.1 **Table 3.14** provides a summary of the revised assessment of effects with respect to red kite, goshawk and golden plover and collision risk. Whilst updated surveys have shown a slight increase in flight activity for red kite, the predicted effects for all species are negligible – low and therefore not considered to represent a significant impact.

Table 3.13 Summary of significance evaluation for receptors and effects scoped in for re-assessment

Receptor	Importance – Legislation	Importance – Project	Effect	Impact	Significance and justification
Red Kite	National	County	Collision during operation resulting in mortality of individual birds	Low	Not Significant Levels of predicted collision would not have an observable impact on the resident county population of red kite
Goshawk	National	County	Collision during operation resulting in mortality of individual birds	Negligible	Not Significant Based on observed flight activity levels the predicted effect of collision is of negligible magnitude
Golden Plover	National	County	Collision during operation resulting in mortality of individual birds	Low	Not Significant Levels of predicted collision would not have an observable impact on the non-breeding county population of golden plover

3.13 Implementation of environmental measures

- 3.13.1 **Table 15** describes the environmental measures embedded within the Proposed Development and the means by which they will be implemented.

Table 3.15 Summary of environmental measures to be implemented relating to ornithology

Environmental measure	Responsibility for implementation	Compliance mechanism
Avoidance of damage or destruction of nests during construction	Site management and ecological advisor independent of the contractor acting as clerk of works	Planning condition
Pre-construction surveys for breeding birds, and mitigation to avoid disturbance, if required	Site management and independent ecological advisor. Mitigation strategy (if required) to be submitted to NRW for agreement.	Planning condition
Avoidance measures to protect breeding nightjar from disturbance during construction	Site management and independent ecological advisor.	Planning condition
Habitat enhancement initiatives	Steering group consisting of Pennant Walters (Foelt) Ltd, its ecological consultants and NPTCBC.	Legal agreement

Appendix A

Baseline Report

Appendix B

Confidential Honey Buzzard Baseline Update

Appendix C

Collision Risk Modelling Report

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