

HABITATS REGULATIONS ASSESSMENT FOR LLANBRYNMAIR WIND FARM

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Habitats Regulations Assessment

1. Introduction

This is a record of the Habitats Regulations Assessment (“HRA”) that the Secretary of State for Business, Energy and Industrial Strategy (BEIS) has undertaken under the Conservation of Habitats and Species Regulations 2017 (“the Habitats Regulations”) in respect of the proposed consent for Llanbrynmair Wind Farm (“Llanbrynmair”) in Powys, Wales. For the purposes of the Habitats Regulations, the Secretary of State is the competent authority. The Applicant is RES Ltd (“the Applicant”).

On 4 June 2013, a conjoined public inquiry was held into five applications made under section 36, and one made under section 37, of the Electricity Act 1989. The inquiry concluded on 30 May 2014. The inquiry considered five proposed wind farm projects (Llandinam Repowering, Llaithddu, Llanbadarn Fynydd, Carnedd Wen and Llanbrynmair) collectively referred to in this document as “the mid-Wales wind farm projects” and a related grid connection, the Llandinam wind farm to Welshpool substation 132 kV overhead line (“Llandinam 132 kV line”).

Mr A. Poulter, an Inspector from the Planning Inspectorate (“PINS”), submitted his report of the inquiry, including his recommendation (“the Inspector’s Report”), to the Secretary of State on 8 November 2014. A copy of the Inspector’s Report and annexes is available at: <https://www.gov.uk/government/publications/llanbrynmair-and-carnedd-wen-wind-farm-applications-redetermination>

On 7 September 2015, the Secretary of State granted consent for Llandinam Repowering and refused consent for Llaithddu, Llanbadarn Fynydd, Carnedd Wen and Llanbrynmair. Following a legal challenge by the Carnedd Wen and Llanbrynmair Applicants, the Secretary of State agreed in December 2015 that the decisions to refuse these Applications be quashed and to re-determine them. On 5 February 2020, the Carnedd Wen applicant (Innogy Renewables UK Ltd) wrote to the Secretary of State to withdraw its section 36 application for Carnedd Wen. Therefore, the Secretary of State’s re-determination now only relates to the section 36 application for Llanbrynmair.

1.1 Legislation

The Habitats Regulations aim to ensure the long-term conservation of certain species and habitats by protecting them from possible adverse effects of plans and projects. The Regulations cover England and Wales including their inshore waters up to 12 nautical miles (“nm”). The Habitats Regulations provide for the designation of sites for the protection of habitats and species of international importance. These sites are called Special Areas of Conservation (“SACs”). The Regulations also provide for the classification of sites for the protection of rare and vulnerable birds and for regularly occurring migratory species within the UK and internationally. These sites are called Special Protection Areas (“SPAs”). SACs and SPAs together form part of the UK’s National Site Network.

Regulation 63 of the Habitats Regulations provides that:

“.....before deciding to undertake, or give any consent, permission or other authorisation for, a plan or project which (a) is likely to have a significant effect on a European site or a European offshore marine site (either alone or in combination with other plans or projects) and (b) is not directly connected with or necessary to the management of that site, [the competent authority] must make an appropriate assessment of the implications for that site in view of that site’s conservation objectives.”

Llanbrynmair is not directly connected with, or necessary to, the management of any SAC or SPA.

The Habitats Regulations require the Secretary of State to consider whether the project is likely to have a significant effect (“LSE”) on any such site, alone or in-combination with other plans and projects. Where the potential for LSE cannot be excluded, an appropriate assessment (“AA”) of the implications of the project for that site in view of its conservation objectives must be completed. Therefore, the Secretary of State must determine whether the project will have an adverse effect on the integrity of the site(s).

In this document, the first stage assessment of LSEs and, where required, the second stage assessment (“the AA”) to determine whether there is an adverse effect on the integrity of a site, are collectively referred to as the Habitats Regulations Assessment (“HRA”).

1.2 Information Sources

This HRA should be read in conjunction with the documents submitted during the public inquiry and the re-determination process for Llanbrynmair. These documents provide extensive background information and are available on the public inquiry’s website¹ and the GOV.UK website.

The key information in these documents, written representations and discussions at the hearings are summarised and referenced in this HRA.

1.3 Statutory Consultation

Under regulation 63(3) of the Habitats Regulations the competent authority must, for the purposes of an AA, consult the appropriate statutory nature conservation body and have regard to any representation made by that body within such reasonable time as the authority specify. Natural Resources Wales (“NRW”) is the statutory nature conservation body in Wales (replacing the Countryside Council for Wales (“CCW”)) and is responsible for discharging the functions of the Environment Agency and Forestry Commission in Wales.

Under regulation 63(4) of the Habitats Regulations the competent authority must also, if they consider it appropriate, take the opinion of the general public and if they do so, they must take such steps for that purpose as they consider appropriate.

¹ <http://bankssolutions.co.uk/powys/>

To fulfil these duties, the Secretary of State consulted Interested Parties on several occasions during the public inquiry and re-determination, as summarised below. All consultation responses received have been used to inform the Secretary of State's conclusions in respect of this HRA.

1.4 Public Inquiry HRA Consultation

A HRA was previously published alongside the Secretary of State's decision on the conjoined public inquiry for all five Mid-Wales Wind Farm projects and the Llandinam 132 kV line ("the 2015 HRA"²). The Secretary of State consulted NRW on a draft version of the 2015 HRA on 4 February 2015.

A response was received from NRW on 18 February 2015, confirming that "*NRW broadly agrees with the conclusions of the Habitats Regulations Assessment but considers that insufficient information has been provided to demonstrate that the mitigation has been appropriately provided and secured.*" NRW raised several specific points on the draft HRA, which were considered in the final published 2015 HRA. The matters raised by NRW in this response are appended in full as Annex A and a table recording how these comments were addressed is included as Annex B. NRW raised no substantive disagreements with the conclusions of the draft 2015 HRA, or the draft section 36 conditions included in the Inspector's Report of 8 November 2014.

In the 2015 HRA the Secretary of State noted that the Inspector (Inspector's Report paragraph 5.38) considered that the draft conditions (included within the Inspector's Report Annexes) were suitable and would deliver the mitigation measures as set out in the Environmental Statement ("ES") and Supplementary Environmental Information ("SEI"). The Inspector also had no reason to doubt that the general principles and measures in the draft plans will be translated into suitably designed and site-specific measures in the final plans to be submitted for approval. The Inspector also stated that the Local Planning Authority ("LPA") would be the appropriate body to assess and approve the plans, and that the draft conditions would empower the LPA to ensure compliance and if necessary, enforce all measures within the plans.

1.5 Re-Determination HRA Consultation

During the re-determination, representations were received in response to a letter from the Secretary of State, published on 6 July 2016, which set out to Interested Parties the specific matters on which representations should be made for the purposes of the re-determination of the Llanbrynmair and Carnedd Wen applications. This included the matter of the adequacy of environmental information produced in support of the applications and whether further or updated environmental information was necessary. NRW responded on 23 August 2016 to state that it did not wish to make additional representations on the matters identified by the Secretary of State and that it was satisfied that the Secretary of State could rely on its previous submissions. Several other

² <https://www.gov.uk/government/publications/llanbrynmair-and-carnedd-wen-wind-farm-applications-redetermination>

representations from other Interested Parties provided comment on environmental matters, but no further issues were raised in relation to HRA matters.

While preparing the HRA for re-determination, the Secretary of State identified certain matters that required further consultation. On 16 February 2018 the Secretary of State asked both the Carnedd Wen and Llanbrynmair Applicants for an update or further environmental information on the Berwyn SPA and the Montgomery Canal SAC.

Responses from both Applicants were received on 29 March 2018. A consultation on this new information followed, including several specific questions directed to NRW. Upon receipt of all consultation responses, the Secretary of State gave both applicants the opportunity to respond. The Carnedd Wen and Llanbrynmair Applicants' final responses were received on 15 February 2019. As noted above, the promoter of the Carnedd Wen scheme has subsequently withdrawn its application for section 36 consent.

2. Development Description

2.1 Overview

Llanbrynmair was in Strategic Search Area (“SSA”) B. SSAs were areas defined by the Welsh Government in 2005 as being potentially suitable for the development of large-scale wind farm developments. Further information about the allocation of these areas is described in the former Technical Advice Note 8 policy document (“TAN 8”)³. A brief description of the project is provided below. A full description is available in the Environmental Statement (“ES”), Supplementary Environmental Information (“SEI”) and in summary within the Inspector’s Report.

2.2 Llanbrynmair

The original application for Llanbrynmair, submitted by RES UK and Ireland Ltd, was for 43 turbines (with a total generating capacity of between 86 MW and 129 MW) and associated infrastructure.

This proposal was amended to reduce the maximum capacity from 129MW to 90 MW; this would be generated by 30 turbines with an individual generating capacity of between 2 and 3 MW. The maximum height to blade tip would be 126 m.

The associated infrastructure and enabling works includes on-site tracks, underground cabling, forestry felling, crane hard standings, a communications mast, a permanent free standing 80m high lattice wind monitoring mast, electrical transformers, electrical connection works, a substation and a control building.

2.3 Rochdale Envelope

The Rochdale Envelope is a term used in planning to reflect the fact that often an applicant will not know all the details associated with the proposal at the time of application. The Rochdale Envelope allows an applicant to set out the broad range of options under consideration and then carry out an Environmental Impact Assessment (“EIA”) based on the worst-case scenario for each of those options. The decision-maker, in this case the Secretary of State, can then take a decision based on the impacts of the worst-case scenario, allowing the developer to build up to, but not exceed this threshold.

The Applicant has sought to retain some flexibility in the final project design and the conditions on the consent have been framed to allow for multiple design options in accordance with the Rochdale Envelope concept.

The ES produced for the application is therefore based on the assessment of a maximum adverse scenario (the realistic worst-case) in environmental terms.

³ Welsh Assembly Government. 2005. Technical Advice Note 8: Planning for renewable energy

3. Habitats Regulations Assessment

Under regulation 63 of the Habitats Regulations, the Secretary of State must consider whether a Development is likely to have a significant effect on a National Network site, either alone or in combination with other plans or projects. An effect is “likely” if, as a consequence of a plan or project, an effect on the conservation objectives of the features for which the site was designated cannot be excluded. An effect can only be excluded if there is no reasonable scientific doubt as to its absence. Only “significant” effects are relevant, so trivial or inconsequential effects are excluded. An AA is required if a plan or project is likely to have a significant effect on a National Network site, either alone or in combination with other plans or projects.

The purpose of this section of the HRA is to identify whether any significant effects on National Network sites are likely as a consequence of Llanbrynmair. It records the Secretary of State’s conclusions on the need for an AA and the reasons for screening in activities, sites or plans and projects for further consideration in the AA. For those features where significant effects are likely, these must be subject to an AA. This review of potential implications can be described as a ‘two-stage process’ with the test as to whether an AA is required is the first stage, and the review of effects on integrity (AA) is the second stage.

This section addresses the first stage process of the HRA. The Secretary of State has considered the potential impacts of Llanbrynmair, alone and in combination with other plans and projects, on National Network sites to determine whether or not there is likely to be a significant effect.

3.1 Treatment of Decommissioning Impacts

At the end of Llanbrynmair’s lifetime, decommissioning must take place. The scheme’s consent contains several conditions outlining the provisions for decommissioning (conditions (7)-(10)). These provisions require (amongst other things) the production of a Site Decommissioning and Restoration Scheme which uses updated habitat and bird survey results to detail the measures to be taken to protect habitats and birds. The Site Decommissioning and Restoration Schemes need to be submitted and approved by the Local Planning Authority (“LPA”) following consultation with NRW.

It is not possible at this stage to predict with any certainty what the status of National Network sites will be 25 years in the future: sites may increase or decrease in importance over that time. The environmental baseline at the time of decommissioning is also likely to be different given the effects arising from construction and operation. However, if it were to be similar to the current conditions, then the impacts of decommissioning could be expected to be similar to the anticipated impacts of construction given the nature of the physical processes involved in decommissioning.

3.2 Likely Significant Effects: Llanbrynmair Alone

The public inquiry and the re-determination considered whether Llanbrynmair is likely to have a significant effect on the following National Network sites.

Berwyn SPA

The Berwyn SPA is located approximately 4.5 km from Llanbrynmair.

The Berwyn SPA is designated to protect its internationally important breeding populations of certain birds of prey. At the time of designation (1998), the SPA supported 14 pairs of hen harriers *Circus cyaneus*, 14 pairs of merlin *Falco columbarius*, 18 pairs of peregrine *Falco peregrinus*, and two pairs of red kite *Milvus milvus*.

Given that Llanbrynmair would be located outside the SPA boundary, the most relevant conservation objective for consideration relates to the size of each interest feature's breeding population (i.e., number of breeding pairs) and the effect of the windfarm on those populations. Populations have the potential to be impacted by the windfarm through increased disturbance, habitat loss, and birds colliding with turbine blades.

Disturbance and Habitat Loss

At 4.5 km from the SPA, activities associated with Llanbrynmair will not disturb or cause habitat loss for the birds protected by the SPA.

Collision

The 2015 HRA concluded that birds from the SPA would be unlikely to forage or be functionally linked to Llanbrynmair. On this basis it was concluded that a significant effect from bird collisions would not be likely.

As part of the re-determination, an update to the ornithological baseline at Llanbrynmair was submitted by the Applicant⁴. This report confirmed the presence of peregrine, red kite, merlin and hen harrier at the proposed site. The Secretary of State notes that NRW has not raised any concerns in the light of this new information and that it has stated in a letter to the Secretary of State on 30 November 2018 that it is "content with the conclusions [of the 2015 HRA]". However, despite NRW's assurances, it is not clear to the Secretary of State how this new information has been considered by NRW. In the absence of a clear rationale, a precautionary approach must assume that individual collisions with turbines could amount to a significant effect on the SPA bird populations, and in view of their presence in the area, the Secretary of State considers that the likelihood of this happening cannot be excluded without further analysis. On this basis, the Secretary of State has concluded that an AA of collision risk at Llanbrynmair is required.

Pen Llyn a'r Sarnau SAC

The Pen Llyn a'r Sarnau SAC is a marine site, situated approximately 25 km from Llanbrynmair, on the coast of Mid-Wales. The SAC boundaries include the Dyfi Estuary. It is designated for a range of marine habitats and species including estuaries, intertidal reefs, and otter *Lutra lutra*. Llanbrynmair does not lie within the catchment of this site. Given that there is no connectivity the Secretary of State has concluded that Llanbrynmair is not likely to have a significant effect on this SAC.

⁴https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/738039/3. Llanbrynmair and Carnedd Wen Bird Survey Report 2016-17.pdf

Berwyn and South Clwyd Mountains SAC

The Berwyn and South Clwyd Mountains SAC is designated for several habitat features including blanket bog and dry heath. It is located to the north of SSA B and approximately 4.5 km north of Llanbrynmair. NRW has stated that there is no hydrological connectivity between this SAC and Llanbrynmair. NRW also stated that the increase in traffic resulting from Llanbrynmair would not be of such a magnitude to result in a likely significant effect in terms of air pollution. In view of the distance between the SAC and Llanbrynmair and the lack of hydrological connectivity, the Secretary of State agrees with NRW and has concluded that Llanbrynmair is not likely to have a significant effect on this SAC.

Montgomery Canal SAC

The Montgomery Canal SAC is designated because it supports the largest population of floating water plantain *Luronium natans* in Britain. The species is dependent upon slow moving mesotrophic conditions and as such, is sensitive to changes in water quality and to pollution. Pollution is a threat to the conservation objective of maintaining the extent and distribution of the species.

While the Montgomery Canal SAC is approximately 22 km from Llanbrynmair, it has the potential to be affected through hydrological connectivity. A few minor watercourses rise within the Llanbrynmair site appear to discharge to the Afon Banwy which joins the River Vyrnwy at Dyffryn Meifod and the River Severn at Molverley. The northern section of the Montgomery Canal (in Wales) is fed by the River Tanat (approximately 1.7 km upstream of the confluence of the River Tanat and River Vyrnwy), and the southern section is supplied by the River Severn at Penarth Weir, Newtown (approximately 45 km upstream of the confluence of the River Severn and the River Vyrnwy)⁵. The catchment of the Montgomery Canal is artificial, and the feeds from the River Tanat and River Severn occur at points upstream of flows from the Llanbrynmair site. Therefore, it is unlikely that hydrological transfer between the Llanbrynmair site and SAC would occur, and potential pollution occurrences (for example mobilisation of sediment during construction) would have no effect on the condition of the SAC. On this basis the Secretary of State has concluded that Llanbrynmair is unlikely to have a significant effect of the Montgomery Canal SAC.

River Wye SAC

The River Wye SAC encompasses the River Wye and its tributaries from a few kilometres below its source on Pumlumon to where the river enters the Severn Estuary. The site is designated for a range of fish species. It is also designated for otter and habitat features. No part of Llanbrynmair is located within the Wye catchment. On the basis that the project is not within the catchment of this site, the Secretary of State has concluded that Llanbrynmair is not likely to have a significant effect on the River Wye SAC. This conclusion is consistent with NRW's advice.

⁵ Montgomery Canal Partnership (2005)

4. Likely Significant Effects: In-Combination with other Plans and Projects

4.1 Plans and Projects Included in the Assessment

Under the Habitats Regulations, the Secretary of State is obliged to consider whether Llanbrynmair, in-combination with other plans or projects, is likely to have a significant effect on National Network sites.

On 6th September 2018 the Secretary of State sent a letter to NRW asking for a complete list of projects that should be considered in-combination with Llanbrynmair. NRW replied that it did not have a comprehensive list of projects and Powys Council should be contacted for this information. The Secretary of State requested this information from Powys Council on 19th December 2018 and a response was received on 9th January 2019. The response updated a previous first round representation made on 29th July 2016. In view of these representations the Secretary of State has compiled a list of projects that have the potential to interact with Llanbrynmair (Table 1). Table 1 lists projects that are currently in operation; projects that have been consented; and projects at the application or pre-application stages. It does not list applications that have been refused or withdrawn.

Table 1. Projects with the potential to interact in-combination with Llanbrynmair.

Name	Status
Llandinam P&L	Operational
Cemmaes	Operational
Bryn Titli	Operational
Mynydd Clogau	Operational
Carno A & B	Operational
Carno A & B Extension (Carno 2)	Operational
Tirgwynt	Operational
Garreg Lwyd	Operational
Bryn Blaen	Operational
Llandinam Repowering	Consented
Carno 3	Consented
Hendy	Consented
Bryngydfa	Application under consideration
Esgair Cwmowen	Application under consideration
Bryn Titli Extension	Operational
Nant y Moch	Pre-application

SP Mid Wales 132kv Grid Connections	Pre-application
NGRID Mid Wales 400kv Connection	Pre-application
Bryngwyn Substation	Pre-application

4.2 Assessment of Likely Significant Effects

Berwyn SPA

Disturbance and Habitat Loss

At 4.5 km from the SPA, activities associated with Llanbrynmair will not disturb or cause habitat loss for the birds protected by the SPA. Therefore, there is no potential for Llanbrynmair to contribute to an in-combination effect on interest features of this protected site.

Collision

As the increased risk of collision from Llanbrynmair is likely to have a significant effect on the Berwyn SPA, any in-combination effect must also be considered as part of the AA.

Pen Llyn a'r Sarnau SAC

Changes to Hydrology

As there is no hydrological connectivity between Llanbrynmair and the Pen Llyn a'r Sarnau SAC, there is no potential for Llanbrynmair to contribute to an in-combination effect on the interest features of this protected site.

Berwyn and South Clwyd Mountains SAC

Changes to Hydrology and Traffic Increase

As there is no hydrological connectivity between Llanbrynmair and the Berwyn and South Clwyd Mountains SAC, and in view of the distance between the SAC and Llanbrynmair, there is no potential for Llanbrynmair to contribute to an in-combination effect on the interest features of this protected site.

Montgomery Canal SAC

Changes to Hydrology

Given that hydrological transfer between Llanbrynmair and the SAC is unlikely to occur, there is no potential for Llanbrynmair to contribute to an in-combination effect on the interest features of this protected site.

River Wye SAC

Changes to Hydrology

As Llanbrynmair would not be hydrologically connected to the SAC, there is no potential for Llanbrynmair to contribute to an in-combination effect on the interest features of this protected site.

4.3 Conclusions on Likely Significant Effects

The Secretary of State considers, in line with requirements under the Habitats Regulations, that sufficient information has been provided to inform a robust assessment of whether significant effects on the National Site Network are likely because of Llanbrynmair alone and in combination with other plans or projects.

Having given due consideration to the information and analysis, the Secretary of State is satisfied that there is one National Site Network site (the Berwyn SPA) for which significant effects cannot be excluded.

The Secretary of State is satisfied that there are no other National Site Network sites on which there is likely to be a significant effect from Llanbrynmair, either alone or in combination with other plans or projects.

5. Appropriate Assessment

5.1 Test for Adverse Effects on Site Integrity

In the context of the Regulations, the ‘integrity’ of a site is defined in England and Wales as *‘the coherence of its ecological structure and function across its whole area, that enables it to sustain the habitat, complex of habitats and/ or the levels of populations of the species for which the site is designated’*. In 2018, EC guidance modified this to read *‘the coherent sum of the site’s ecological structure, function and ecological processes, across its whole area, which enables it to sustain the habitats, complex of habitats and/ or populations of species for which the site is designated.’*

The purpose of this AA is to determine, in view of the site’s conservation objectives and using the best scientific evidence available, whether or not adverse effects on the integrity of those sites as a result of the project, either alone or in combination with other plans and projects, can be ruled out.

If the competent authority cannot ascertain the absence of an adverse effect on site integrity beyond reasonable scientific doubt, then under the Habitats Regulations, alternative solutions should be sought. In the absence of an acceptable alternative, the project can only proceed if there are imperative reasons of overriding public interest (“IROPI”) and suitable compensation measures identified.

Conservation Objectives

Conservation objectives outline the desired state for a National Network site, in terms of the interest features for which it has been designated. If these interest features are being managed in a way which maintains their nature conservation value, they are assessed as being in a ‘favourable condition’. An adverse effect on integrity is likely to be one which prevents the site from making the same contribution to favourable conservation status for the relevant feature as it did at the time of its designation.

There are no set thresholds at which impacts on site integrity are considered to be adverse. This is a matter for interpretation on a site-by-site basis, depending on the designated feature and nature, scale and significance of the impact.

In this assessment, conservation objectives have been used by the Secretary of State to consider whether Llanbrynmair, has the potential to have an adverse effect on the integrity of the Berwyn SPA, alone or in combination with other plans and projects.

5.2 Berwyn SPA

Berwyn SPA qualifies under Article 4 of the Birds Directive (2009/147/EC) by supporting internationally important populations of breeding birds. At the time of designation (1998), the SPA supported 14 pairs of hen harriers, 14 pairs of merlin, 18 pairs of peregrine falcon, and two pairs of red kite. The full conservation objectives for the Berwyn SPA are set out in Annex C and the specific targets relating to the qualifying bird species, are presented below.

In Section 3 above, the Secretary of State identified that a significant effect on Berwyn SPA from Llanbrynmair, alone and in-combination with other plans or projects, could not be excluded due to collision mortalities of qualifying bird species.

Bird surveys were undertaken for the site and a 500m buffer in 2005/2006 and an update survey was completed in 2016/17 to provide bird flight line and flight height data for the qualifying species during the breeding and non-breeding seasons⁶.

Assessment of Impacts for the Project Alone

Llanbrynmair has the potential to increase the background rate of bird mortalities through collisions with turbines. To investigate this, the Applicant undertook collision risk modelling of the 2016/17 data using the standard Band model with the Scottish Natural Heritage (SNH) recommended avoidance rates.

Collision risk modelling is used to estimate the number of birds likely to be killed through collision with the wind turbine blades. Several factors determine collision risk such as species ecology (flight height and flight speed), turbine location (in relation to bird density), and turbine parameters (draft height and rotor swept area). Birds of prey are thought to be particularly vulnerable to collision risk when compared with other species, due to their flight characteristics.

A key step in predicting collision mortality is quantifying the percentage of birds that will change their flight lines to avoid flying into the rotating turbine blades: this is the avoidance rate. The choice of avoidance rate has a significant influence on the number of predicted collisions. A 1% decrease in the avoidance rate doubles the predicted collision mortalities.

Red Kite

The specific conservation objectives for red kite at Berwyn SPA are;

- The size of the population must be maintained at two breeding pairs or more.
- Sufficient broadleaf woodland required for nesting and roosting plus heath and rough grassland for feeding with an adequate supply of prey species in the form of carrion, small birds and small mammals to maintain successful breeding.
- Developments should not be permitted where they can be shown to have likely adverse impacts upon red kite.
- Adjoining hunting territories will be managed by controlled grazing to improve structural diversity within the grasslands. This will increase seed production and maximise prey availability e.g., small passerines.
- There will be no disturbance of any nest location.
- Illegal human persecution of protected bird species should not occur.
- All factors affecting the achievement of these conditions are under control.

6

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/785068/res-uk-innogy-renewablesuk-powys-county-council-representations-response-sos-letter-19-dec-2018.zip

For red kite, the Applicant applied a 99% avoidance rate, as recommended by SNH. This resulted in a collision rate of one bird every 11.8 years at Llanbrynmair. To give context to this number it is possible to refer to Appendix 8.7 of the Carnedd Wen 2008 ES, which provided a population viability analysis (“PVA”) of the Welsh female red kite population⁷. The PVA estimated the growth of this population, with and without additional collision mortality.

At the time at which the PVA was produced, a lower avoidance rate had been used and so the collision risk to red kite was thought to be greater. Using a collision rate of two female birds per year, it was demonstrated that the rate of increase of the Welsh population would not be significantly affected. Whilst the PVA has not been re-modelled by the Applicant to take account of Llanbrynmair collision rate estimates, given that the predicted collision rates are lower, it can be ascertained that the updated mortality predictions would not significantly reduce the growth of the Welsh population.

It should be noted that this model is now more than 10 years old and has not been updated with empirical population data: however, the Welsh red kite population is increasing: Appendix 8.7 of the 2008 ES estimated that the breeding population was between 600 and 700 pairs at that time, and the current population is estimated to be c.2,000 pairs. It is anticipated that any birds killed through collisions at Llanbrynmair would be replaced by birds from the expanding Welsh red kite population.

The Secretary of State concludes that an adverse effect on the integrity of the red kite feature of Berwyn SPA from the project alone can be excluded.

Hen Harrier

The specific conservation objectives for hen harrier at Berwyn SPA are;

- The size of the population must be maintained at 11 breeding pairs or more.
- There will be sufficient appropriate habitat to support the population in the long-term including patches of tall heather for nesting and roosting, areas grasslands, bracken of low trees/scrub for feeding with an adequate supply of prey species (small birds and small mammals) to maintain successful breeding.
- Distribution of species within the site is maintained.
- Developments should not be permitted where they have likely adverse impacts upon hen harrier.
- Populations of legally controllable predator species, such as foxes and carrion crows, will not pose a threat to ground nesting birds.
- Hunting territories will be managed by controlled grazing to improve structural diversity within the grasslands. This will increase seed production and maximise prey availability e.g., small passerines.
- There will be no disturbance of any nest location.
- Illegal human persecution of protected bird species should not occur.
- All factors affecting the achievement of these conditions are under control.

⁷ The model used was a Leslie Matrix, which considers only one sex (usually females)

Five hen harrier flight lines were recorded at Llanbrynmair during the 2016/17 survey. During the breeding season, activity was predominantly around the periphery of the site, whereas during the non-breeding season the birds were more widely dispersed. Most registrations were of birds quartering within a few meters of the ground. Three flights were recorded at rotor swept height. Using a 99% avoidance rate (recommended by SNH) produced a collision rate of one bird colliding every 1,662 years at Llanbrynmair. The low sighting frequency does not allow for these analyses to be statistically robust, but the results indicate that the impacts on the hen harrier population will be negligible.

The Secretary of State concludes that an adverse effect on the integrity of the hen harrier feature of Berwyn SPA from the project alone can be excluded.

Merlin

The specific conservation objectives for merlin at Berwyn SPA are;

- The size of the population must be maintained at 13 breeding pairs or more.
- There will be sufficient appropriate habitat to support the population in the long-term including patches of tall heather for nesting and roosting, areas grasslands, bracken of low trees/scrub for feeding with an adequate supply of prey species in the form of small birds and small mammals to maintain successful breeding.
- Distribution of species within the site is maintained.
- Distribution and extent of habitats supporting the species is maintained.
- Developments should not be permitted where they can be shown to have likely adverse impacts upon merlin.
- Populations of legally controllable predator species, such as foxes and carrion crows, should not pose a threat to ground nesting birds.
- Adjoining hunting territories will be managed by controlled grazing to improve structural diversity within the grasslands. This will increase seed production and maximise prey availability e.g. small passerines.
- There will be no disturbance of any nest location.
- Illegal human persecution of protected bird species should not occur.
- All factors affecting the achievement of these conditions are under control.

Collision risk modelling was not undertaken for merlin because this species was not recorded at collision risk height.

There is no evidence that merlin fly at rotor swept height at the proposed Llanbrynmair scheme and the Secretary of State concludes that an adverse effect on the integrity of the merlin feature of Berwyn SPA from the project alone can be excluded.

Peregrine

The specific conservation objectives for peregrine at Berwyn SPA are;

- The size of the population must be being maintained at 13 breeding pairs or increased beyond this.
- Mountainous and moorland terrain with cliffs, crags and quarries for nesting and roosting plus grasslands, bracken of low trees/scrub for feeding with an adequate

supply of prey species in the form of small birds and small mammals to maintain successful breeding.

- The range of the population must not be contracting.
- Distribution and extent of habitats supporting the species is maintained.
- Developments should not be permitted where they can be shown to have likely adverse impacts upon peregrine.
- Populations of legally controllable predator species, such as foxes and carrion crows, should not pose a threat to ground nesting birds.
- Adjoining hunting territories will be managed by controlled grazing to improve structural diversity within the grasslands. This will increase seed production and maximise prey availability e.g. small passerines.
- There will be no disturbance of any nest location.
- Illegal human persecution of protected bird species should not occur.
- All factors affecting the achievement of these conditions are under control.

Collision risk modelling was not undertaken peregrine because during the 2016/17 surveys, there were only three sightings of peregrine at collision risk height, which was insufficient to create a robust model.

Peregrine rarely flew at rotor swept height at the proposed Llanbrynmair scheme and the Secretary of State concludes that an adverse effect on the integrity of the peregrine feature of Berwyn SPA from the project alone can be excluded.

Assessment of Impacts for the Project In-Combination with other Projects

The predicted collision rates for the project alone are negligible and there is no likelihood that Llanbrynmair will interact with any of the other projects in Table 1 to contribute to an in-combination effect. The Secretary of State concludes that an adverse effect on the integrity of Berwyn SPA from the project in combination with other projects can be excluded.

5.3 Conclusion

The Secretary of State notes that the Statutory Nature Conservation Body, NRW, is content with the conclusion of the 2015 HRA that Llanbrynmair, alone and in-combination with other projects, would not have a significant effect on the Berwyn SPA. Since then the collision risk assessment has been updated, but the effect of this update is a reduction in collision risk for those species for which collision risk modelling was statistically possible. The Secretary of State is satisfied that hen harrier, peregrine and merlin occur too infrequently at collision risk height to suggest that there would be an adverse effect on the SPA population. The Secretary of State has also concluded that the modelled collision rate for red kite would have a negligible effect on the SPA, in the context of the expanding Welsh red kite population, which has the capacity to replenish any affected territories protected by the SPA. On this basis, the Secretary of State is satisfied that Llanbrynmair, alone and in-combination, would not have an adverse effect on the Berwyn SPA.

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