

Appendix 8.1

Meeting Summary: Llanbrynmair and Carnedd Wen Wind Farms Ornithology

Location: Microsoft Teams

Date: 16/11/2022. **Duration:** 14:00 – 16:00

Present: Patrick Lindley (Senior Ornithologist), Bryn Pryce (Senior Advisor, Development Planning) [Natural Resources Wales]; Chris Jackson (Senior Development Project Manager), Elliot Smith (Development Project Manager) [RES]; Jennifer Pearson (Development Project Manager) [RWE Renewables]; Owain Gabb (Director), Joanne Conway (Senior Consultant Ecologist) [BSG Ecology].

Apologies for Absence: N/A.

ITEM	ITEM	ACTION
1	Introductions	
2	<p>Purpose of meeting</p> <p>OG set out the purpose of the meeting as being:</p> <ul style="list-style-type: none"> - To provide an update on design progression and timelines to planning for the respective Carnedd Wen and Llanbrynmair schemes. - To update NRW on progress following the completion of a full year of ornithological survey work at both the Carnedd Wen and Llanbrynmair sites. - To discuss the need for further data collection ahead of submission. - As part of the discussion on whether data collected are sufficient, to discuss whether there is appropriate information to address the three tests of functional linkage through the application process. <p>OG stated that BSG Ecology have completed the data collection for both sites during the period. This has enabled effective co-ordination of survey work across them (the survey areas overlap extensively). The ornithological assessments within the applications for the respective schemes will undoubtedly benefit from the wider contextual knowledge gained.</p> <p>The sites have been reported separately, as they are distinct entities, and will be submitted separately to planning.</p> <p>The reports for the period October 2021 to September 2022 were sent to NRW on 8 November via the NRW file sharing system. PL noted that the reports were not passed on to him, so he had not had the opportunity to read them in advance of the meeting.</p> <p>JC noted that the intention was to talk NRW through the key results as a precursor to a discussion about the requirement for further work. The reports will be re-uploaded to the NRW file sharing system once a new link has been provided. BP agreed to send a link.</p>	BP / JC

3	<p>Proposed Development (Figures were shared on screen showing the respective site boundaries) <i>Carnedd Wen</i> (RWE Renewables) JP introduced the scheme. Key points were as follows:</p> <ul style="list-style-type: none"> • The scheme was withdrawn from consideration by DBEIS in 2020 as technologies had changed and the layout would need to be adjusted. The original planning submission was in 2008. • The current layout is similar overall – a northern cluster with a ‘tail’ to the south. • RWE is currently looking at 28 turbines with a tip height up to 200 m. Height has therefore increased but there has been a reduction in the overall number of turbines (the previous application was for 50 turbines). There is potential for different tip heights across the site. It is likely to be a key holed site. • The overall capacity is likely to be the same as the previous application if not higher. • Access will continue to be from the north. • Further peat probing has been undertaken this year to help inform the layout. • The scoping report was submitted to PEDW in August and the scoping direction is expected to come back in December. • The EIA will be progressed over the course of the next year with submission to planning anticipated in Q1 2024. <p><i>Llanbrynmair</i> (RES Ltd) CJ provided an overview:</p> <ul style="list-style-type: none"> • Planning consent was achieved for a wind farm of 30 turbines (up to tip height of 126.5 m) on 17 December 2021. • As per RWE’s comments, RES is now looking to submit a new application for larger but fewer turbines due to changes in technology since submission (in 2008). • The potential alternative layout is 26 turbines with a maximum hub height of 125 m and a rotor diameter of 150 m. • The locations of the turbines are similar to those of the consented scheme. • RES is in the process of commissioning peat surveys, after which they will be able to firm up turbine locations. • Timescale for planning submission is 2024. 	
4	<p>Desk Study OG stated that one of the main steps forward in 2022 had resulted from the receipt and analysis of desk study data from RSPB Cymru and Keith Offord for the Berwyn SPA.</p>	

	<p>The data sets indicate that:</p> <ul style="list-style-type: none"> - Between 2012 and 2022 hen harrier have bred as close as ~7.2 km to the north of the Carnedd Wen site (2021), but generally the closest nest is approximately 8 km from the site. Hen harrier also breed further north in the Berwyn SPA. - Historically, breeding attempts have been made in the Hen Bwll area in 2010 and 2011. It appears birds were not successful, and there are no more recent records. - The nearest regular merlin territory is approximately 16 km to the north of the Carnedd Wen turbine array. <p>A little contextual data was also received for red kite and peregrine.</p>	
5	<p>Scope of work: Ornithology</p> <p>(Flight line / territory maps were shared on screen as appropriate.)</p> <p>OG stated that all work was based on SNH / Nature Scot guidance where applicable.</p> <p>OG noted that in the overview the two sites would not be differentiated except where there was particular reason to do so / aspect of the methods or results of the work were more pertinent to one site than the other.</p> <p>OG also noted that dates, times, weather conditions etc. are included in tables appended to the respective reports, along with figures (many of which would be used to illustrate the overview that followed).</p> <p>OG indicated raptor survey flight lines and breeding locations would be initially covered, with an emphasis on Berwyn SPA species. After this an overview would be provided of waterfowl use of pools, and breeding season survey for waders, black grouse and nightjar.</p> <p><i>Vantage Point (VP) Survey</i></p> <p>The following was completed:</p> <ul style="list-style-type: none"> - 36 hours of survey at each of 14 VPs overlooking the respective sites during the winter (October 2021 – March 2022) - 36 hours per VP during the breeding season (April to July) - An additional 6 hours of survey at each VP in August and September. - This resulted in ~1,176 hours of flight line observation over the year for the sites (when considered in combination). <p><i>Raptor survey</i></p> <p>Scope of work was informed by the emerging results of field survey and included:</p> <ul style="list-style-type: none"> - Supplementary VP surveys for goshawk between late-February and mid-April. 16 watches were completed (3 hours duration 	

each). Goshawk was the only target species recorded (everything else secondary). The viewshed was extended to 360 degrees. Good weather was targeted to look for displaying / listen for calling birds.

- Walkover surveys of all suitable habitat within 1-2 km of the combined wind farm boundaries for breeding raptors (distances based on guidance for goshawk, hobby, hen harrier, peregrine, red kite, merlin etc). Included checks of 4 known peregrine eyries (under licence).
- Additional survey of an area of the Berwyn SPA (Hen Bwll) (approximately 9 km²) not covered during the scope of annual SPA surveys by RSPB Cymru and Keith Offord.
- Barn owl building inspections close to potential access routes to Llanbrynmair from the south. Some internally inspected (where access possible); others visually assessed.

Raptor Results

Hen harrier

The pattern of observed activity was that flights were noted in October and November 2021, February, April and August 2022.

- There were no breeding season records of hen harrier at Carnedd Wen, and two early April (likely pre-breeding) flights in the south-western part of Llanbrynmair. (*In 2016 hen harrier was recorded over the combined sites on 6 dates between April and July inclusive (of 88 dates on which VP watches took place)*)
- An incidental record of an adult male to the north of the Hen Bwll survey area was made in May 2022 by Keith Offord. This sighting seems likely to reflect ranging by a bird from the territory nearest Carnedd Wen.
- August flights were noted in the central, northern and south-western parts of the Llanbrynmair site and in the north-eastern part of the Carnedd Wen site and involved a minimum of two birds. Hen harrier activity was noted on three dates in August 2016.
- Winter flights were over open habitats on the periphery of Carnedd Wen and on the southern, eastern and northern edges of Llanbrynmair. These habitats include improved and poor semi-improved pasture, wet flushes, bracken patches and modified bog.

PL asked whether hen harrier flights were at collision risk height. OG responded that almost all hen harrier flight time was below collision risk height.

OG noted that no evidence of breeding was recorded; the Hen Bwll area is suitable breeding habitat however.

PL suggested contacting Julian Hughes for data collected as part of the hen harrier satellite programme. Several birds have been tagged within the Berwyn SPA so it would be worth obtaining this data to understand whether these birds have been recorded using the development areas. OG asked in which years the data were collected.

PL responded that data had been collected in 2021 and 2022 and a small sample in previous years, and that close to 30 hen harriers have been tagged in the last 5 years. This data could be used in combination with VP surveys to determine use of the sites. PL indicated the data is likely to be more useful in terms of post-fledging movements rather than movements of birds within the breeding season.

OG / JC will contact Julian Hughes to see what is available.

OG / JC

Merlin

There was one record (a female bird) in October 2021. The flight was below collision risk height over the Carnedd Wen site. There was no evidence of local breeding.

Merlin was recorded during survey work in October 2016 (1 flight) and March 2017 (2 flights).

Peregrine

There were two peregrine flights noted over Carnedd Wen during the 2022 breeding season, and a further VP flight in October 2021. There was also an incidental record of a bird during a GI VP survey in March 2022.

Two of four eyries surveyed were active in 2022, those at [REDACTED] and [REDACTED]. The other eyries showed some signs of use, but no evidence of breeding. Both are well outside the proposed turbine arrays as illustrated in the report figures.

Recorded peregrine flight activity over the sites has not typically been regular in the past (suggesting birds forage off site), but this was a decrease on previous levels.

Red kite

201 flights were recorded over the Carnedd Wen site and 181 over Llanbrynmair during the breeding season. (A total of 126 flights were noted across the combined area during the 2016 breeding season and

249 in 2022 – an increase of almost 100 % (albeit data are not directly comparable due to changes in the number of VPs and their viewsheds)).

- Recorded activity was highest in April (a bird every 1.8 hours on average) and May (1.3 hours) at Carnedd Wen. Other months varied between an encounter every 2.2 hours (August) and 7.1 hours (January).
- A similar pattern of activity was recorded at Llanbrynmair. Recorded activity increased to 1 bird an hour (approx. in April and May), before dropping to one bird approximately every 3 hours in June and July. There was also higher activity over winter at Llanbrynmair than at Carnedd Wen, with one bird every 1.25 hours (March) and 3 hours (January). One bird was recorded every 1.5 hours in August.

There has never been a red kite territory recorded within either of the sites (since work began in 2005). Indicative territory locations are typically plotted on the edges of and outside the survey area (in areas it is not possible to access). None has been noted in / close to the Berwyn SPA. OG indicated that in enclosed farmland with scattered woodland around the combined site boundaries it was not possible to be certain about number of territories due to access restrictions.

Flight activity does not indicate any regular corridor of movement between Carnedd Wen and the SPA to the north.

The data indicate that during the key provisioning period of June / July, flight activity is lower at both sites than in April / May or in August. This adds weight to the conclusion that nest sites are peripheral to the survey area – albeit the female will be attending young and remain around the nest during incubation and brooding, which may accentuate this.

OG asked whether PL had any comments or queries on the SPA species at this point.

PL summarised his understanding of SPA species activity at the sites. PL noted the need to check peregrine eyrie buffer zones in relation to their distance from the turbine array. (*The distances of the peregrine eyries from the nearest indicative turbine arrays are as follows: 3.1 km and 6 km to the north-west of the Carnedd Wen and Llanbrynmair arrays, respectively (occupied); 1.1 km and 3.6 km to the north-west of the Carnedd Wen and Llanbrynmair arrays, respectively (unoccupied); 2.9 km to the south-west of the Carnedd Wen array / 3.7 km to the west of the Llanbrynmair array (occupied); and 3.9 km and 4.7 km to the north-east of the Carnedd Wen and Llanbrynmair arrays, respectively (unoccupied).*)

OG acknowledged that PL's summary was correct.

OG asked PL whether red kite are continuing to increase in abundance in this area of Wales, or whether they have reached carrying capacity.

PL answered that red kite had seen an exponential Welsh population increase, which is supported by data held for red kite. PL noted that there are likely more territories around the peripheries of the site than have been recorded but acknowledged the difficulty in determining this if no land access is permitted. PL noted that some areas are also known to be saturated with red kites so it is possible to have smaller distances between territories than literature suggests.

Goshawk

OG noted that goshawk had been recorded throughout the year. The goshawk specific VPs had resulted in 25 extra flights being recorded, to the 32 recorded over the year at Carnedd Wen and 26 at Llanbrynmair.

Calling, display and general volume of flight activity indicated three territories within / on the periphery of the survey area.

In 2016/17 it was concluded that 5 territories were likely to be present, and one nest site was confirmed (in the same location as a territory in 2022). There has been considerable felling since 2016/17 which has reduced the amount of larch present.

OG noted that any potential nest sites would need to be checked ahead of the developments.

Kestrel

OG noted that kestrel occurred most commonly at both sites in the mid-late autumn 2021 (October and November), with very few flights recorded during the breeding season, early autumn or first quarter of the year. This suggested a bird had taken up residence in the area for a short period.

Activity was over typical moorland habitats / areas with tussock structure.

There was no evidence of either breeding or regular use at other times of the year during survey in 2016 and 2017.

Hobby

There was an increase in activity over 2016, when only one flight was recorded. Hobby was recorded in April (at Hen Bwll), in mid-May, in early and mid-June, in July and in August.

No evidence of breeding was recorded. All birds were singletons, and a large proportion of records were off site.

	<p>Increased activity is likely to reflect the expansion of range this species is showing and could indicate breeding in the wider area.</p> <p><i>Barn owl</i></p> <p>OG stated that no barn owl (or other owl) sightings were recorded during VP or walkover raptor survey work.</p> <p>Two nests were located in [REDACTED] and in [REDACTED]. JC indicated their locations on a map. OG noted that both were located in barn owl nest boxes in buildings.</p> <p>One on-site building close to the access route, which was internally inspected, was considered suitable to support breeding barn owl (a barn owl box was present). Five other off-site buildings close to the access route could not be internally inspected due to lack of access permissions. Three of the off-site buildings were considered to have suitability for breeding barn owl (based on assessment of the exterior of the buildings), the remaining two were inconclusive as it was not possible to ascertain whether a barn owl nest box was present within the building (they were otherwise unsuitable).</p> <p>No evidence of breeding was recorded.</p> <p>PL asked who is putting barn owl boxes in buildings and whether this data could be obtained.</p> <p>OG responded that landowners could be asked where boxes are from and whether the data can be shared.</p> <p>BP suggested approaching Janet and Jon Sloan, noting that they are retired but may be contactable. They used to build their own barn owl boxes and may have erected a number of boxes in the area.</p> <p>OG agreed that this could be done.</p> <p><i>Other Raptors</i></p> <p>OG noted that other target raptors recorded during the survey were osprey (a flight in May) and marsh harrier (in August).</p> <p><i>Other Target Species</i></p> <p>OG noted that a whooper swan flight was recorded on 23 October (6 individuals flying towards Llyn Gwyddior), small flocks of golden plover were recorded over winter, as well as single jack snipe (late September) and a lapwing.</p> <p>Secondary species included crossbill, which was regular, but there were no records of wintering great grey shrike or breeding firecrest during the surveys.</p>	<p>OG / JC</p>
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PL asked whether any long-eared owl had been recorded during nightjar surveys.

OG responded that none had been recorded despite surveyors being in the plantation at the right times to do so.

Other Bird Survey Techniques

Waterbody Counts

OG noted that surveys of Llyn Coch-hwyad and Llyn Gwyddior were regularly completed around other survey work over the winter.

They returned records of 2 whooper swan on Llyn Gwyddior on 26 November and single figure counts of a range of common waterfowl and gulls.

Wader Survey

OG noted that the Brown & Shepherd method was applied to unenclosed land within 800 m of indicative turbine locations. Four visits were completed. These were evenly spaced as per Nature Scot guidance.

OG stated that there were no records of curlew using the survey area. There were records of an apparent pair in April and early May to the east of the survey area, with some singing and other vocalisation recorded on one of the two dates they were recorded. Otherwise, birds were seen in flight from VPs in April and in June (two consecutive dates) commuting over the Llanbrynmair site. OG concluded that curlew data from 2022, the work in 2016 and in previous years suggest the species is heading towards local extinction, which is consistent with other parts of Powys / Wales. PL agreed.

Snipe was recorded on an occasional basis, with at least one bird likely to have held territory.

Black grouse

OG noted that transects were walked through the plantation and fringing areas with a history of supporting grouse (timings based on Gilbert *et al.*, 1998).

This was a repeat of work completed in 2016, 2012 and 2006-08.

No black grouse were recorded. PL stated that black grouse were likely to be functionally extinct from the area.

Nightjar survey

Nightjar survey in 2022 was informed by a felling plan provided by Tilhill and reconnaissance work to identify sampling points.

	<p>Two survey visits were completed over five nights (which included dusk and pre-dawn surveys) in June and July.</p> <p>Driven transects with stopping points (10 minutes) were used. Churring (and other vocalisations) were listened for and if none were heard, a tape lure was then used to attempt to elicit a response. OG noted that the survey area had been extended to the north-west of Carnedd Wen as extensive felling had occurred in that area.</p> <p>Two male nightjars were heard churring during the June surveys and again in the same area during the July work (one bird churring and one bird calling). A possible third bird was heard calling during the June surveys (within the same listening stop as one of the churring males) however it was not determined whether this was a different bird to the churring male. These were the first records for the site and came from [REDACTED]</p> <p>OG summarised the results of the ornithological survey work, concluding that there had been very few surprises. The occurrence of nightjar, a new species for the survey area, was not unexpected, given the area of forestry felled in recent years.</p>	
6.	<p>Further Survey Requirements ahead of EIA and HRA</p> <p>OG stated that both RES and RWE would like to bring survey work to a close. The pattern of bird activity is established, and the changes in the bird community have been surveyed over many years and have reflected land use and wider population trends. OG asked PL whether in NRW's opinion further survey is needed to address any EIA or HRA-related questions?</p> <p>PL caveated his response by stating that his final advice on all ornithological features will be informed by his review of the ornithological reports.</p> <p><i>Functional Linkage with the Berwyn SPA</i></p> <p>PL advised that the three evidence led tests relating to functional linkage (between the Berwyn SPA and the development areas) needed to be applied.</p> <p>The tests are (with regard to the specifics of the sites):</p> <ol style="list-style-type: none"> 1) <i>Is there evidence to suggest that breeding adults of all four classified features from the Berwyn SPA are ecologically dependent on the proposed development area for foraging?</i> 2) <i>Is there evidence to suggest that wintering adults of all four qualifying features of the Berwyn SPA are ecologically dependent on the proposed development area?</i> 	

	<p>3) <i>Is the maintenance of conservation objectives for all four classified features of the Berwyn SPA dependent on recruitment from within the proposed development area? If so, would the loss of emigration represent an adverse impact to the favourable condition of the qualifying features of the Berwyn SPA.</i></p> <p>PL stated that he is confident that the data sets indicated hen harrier, merlin and peregrine would pass the three tests but there is some residual uncertainty over red kite with regard to tests 1 and 2. PL further indicated that he did not see an issue for any of the species with regard to test 3.</p> <p>PL suggested a sensible approach to evidence against the three tests of functional linkage would be to create a simple species / connectivity matrix. This would demonstrate consideration of the species in the context of the three tests. This matrix would be helpful when we reach the assessment stage, and could form the basis for an agreement of the scope of the HRA between the projects and NRW. PL stated that he would like to see another year of red kite VP survey.</p> <p>OG asked PL if breeding raptor survey for red kite would be specifically in relation to functional linkage.</p> <p>PL confirmed that it would be to robustly address, as far as it is possible to do so, tests 1 and 2. It would need to take account of published data on red kite ranging behaviour during the breeding season (data published by SNH indicates breeding birds will travel up to 6 km from nest sites).</p> <p>OG asked whether what we would really be looking at is whether there is evidence of the transfer of birds between the SPA to the development areas that indicates functional linkage.</p> <p>PL agreed.</p> <p>Moving on to assessment, OG noted that when the Berwyn SPA was classified the population of red kite considered to be present reflected the abundance of the species at that time. OG asked (from a practical perspective) what NRW considered the qualifying population of the Berwyn SPA to be?</p> <p>PL answered that this issue has been raised within NRW and will be addressed over the coming weeks. There are contradictions between the original citation, the SPA Review (Stroud, 2001) and our current understanding of population levels. PL accepted that with the exponential increase of red kite, the numbers of pairs mentioned in the citation will be considerably exceeded by the current population. NRW plan to discuss and revert.</p>	<p>OG / JC</p> <p>PL</p>
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	<p>CJ asked PL how long it would likely take for NRW to provide advice on the issue.</p> <p>PL answered that it would likely take a few months – i.e. NRW would not be in a position to comment further until the new year.</p> <p><i>Other Ornithological Issues</i></p> <p>OG asked whether PL was content for wider site VP surveys to be discontinued.</p> <p>PL caveated his response by re-iterating that he will need to read the ornithology reports in full, but based on the data presented, does not think that a full suite of surveys will be required. However further survey of red kite and nightjar will be needed.</p> <p>PL stated that he didn't think there was need to continue with breeding raptor surveys other than red kite.</p> <p>PL noted that nightjar were recorded for the first time and suggested that another year of nightjar survey is considered to see if there is any range expansion, particularly around clear fell areas near to indicative turbine locations.</p> <p>PL stated that for waders, it is quite clear that no viable breeding populations of curlew are present within the survey area, golden plover do not appear to be of concern and black grouse are functionally locally extinct. PL suggested trying to obtain further information on barn owl in relation to affected areas and that this could largely be done by obtaining data from people who have been monitoring them in the area.</p> <p>OG noted that PL will receive the two ornithology reports imminently (once a new NRW file sharing link had been sent to JC by BP), and kindly requested that confirmation then be provided that no further survey work is required with the exception of red kite and nightjar. OG asked PL when comments on the reports and any remaining advice are likely to be received.</p> <p>PL stated that it depends on his other workloads but will aim to return some feedback before Christmas. PL added that it would be useful to receive a draft of the Functional Linkage matrix along with written consideration of the three tests in relation to the SPA species.</p> <p>OG agreed that could be done.</p>	<p>OG / JC</p> <p>PL</p> <p>OG / JC</p>
7.	<p>Other Matters</p> <p>OG asked for clarity as to who would be the NRW point of contact in the planning team going forward.</p>	

	BP answered that emails should be directed to the Mid Wales Planning inbox. He would pick them up.	
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Meeting Ends: 16:00