

Upper Ogmores Wind Farm
Local Impact Report Response
Biodiversity

BLANK PAGE

Issuing office

Merlin House | No 1 Langstone Business Park | Newport | NP18 2HJ
T: 01633 509000 | W: www.bsg-ecology.com | E: info@bsg-ecology.com

Client	RES Ltd
Project	Upper Ogmore, Upper Ogmore Wind Farm
Version	FINAL
Project number	P21-131 Upper Ogmore

	Name	Position	Date
Originated	Gareth Lang	Principal Ecologist	08 February 2012
Reviewed	Owain Gabb	Director	09 February 2012
Approved for issue to client	Owain Gabb	Director	16 March 2021
Issued to client	Gareth Lang	Principal Ecologist	16 March 2021

Disclaimer

This report is issued to the client for their sole use and for the intended purpose as stated in the agreement between the client and BSG Ecology under which this work was completed, or else as set out within this report. This report may not be relied upon by any other party without the express written agreement of BSG Ecology. The use of this report by unauthorised third parties is at their own risk and BSG Ecology accepts no duty of care to any such third party.

BSG Ecology has exercised due care in preparing this report. It has not, unless specifically stated, independently verified information provided by others. No other warranty, express or implied, is made in relation to the content of this report and BSG Ecology assumes no liability for any loss resulting from errors, omissions or misrepresentation made by others.

Any recommendation, opinion or finding stated in this report is based on circumstances and facts as they existed at the time that BSG Ecology performed the work. The content of this report has been provided in accordance with the provisions of the CIEEM Code of Professional Conduct. BSG Ecology works where appropriate to the scope of our brief, to the principles and requirements of British Standard BS42020.

Nothing in this report constitutes legal opinion. If legal opinion is required the advice of a qualified legal professional should be secured. Observations relating to the state of built structures or trees have been made from an ecological point of view and, unless stated otherwise, do not constitute structural or arboricultural advice.

Contents

1	Introduction.....	3
2	LIR Response.....	4
3	Appendix 1. Phase 1 Habitat Survey Target Notes.....	12

1 Introduction

- 1.1 At the request of the Inspector (in the letter dated 17 February 2021), this report sets out our response to the comments on ecology and biodiversity presented in the Neath Port-Talbot (NPT) and Bridgend Local Impact Reports (LIR) for the Upper Ogmore Wind Farm application. Both reports present similar comments, and so have been addressed together here. Note that comments relating to impacts on peat resources and hydrological connectivity are addressed by a separate cover.
- 1.2 Each comment presented in the NPT LIR (and reflected in the Bridgend LIR) is provided in italics and followed by our response¹.

¹ Paragraph numbers are not presented in the NPT LIR report. Reference has been made to page numbers.

2 LIR Response

Habitats

The phase 1 habitat survey for the main site and the NVC survey are considered out of date. We normally consider ecological surveys to be applicable up to 18 months to 2 years. The phase 1 was undertaken in 2018 and therefore became out of date earlier this year. With that in mind a quick walkover to confirm continued applicability would be recommended. (NPT LIR Appendices 1 to 6, Page 2 of Biodiversity Consultation Response. Reflected in para.11.3 of the Bridgend LIR).

- 2.1 Site walkovers have been completed during bat (in 2019) and bird (in 2020) survey work, and whilst the habitat types have not been recorded in detail during these visits, the land management practices (sheep grazing on improved pastures, and cattle and pony grazing with spring burning on the common land) have been noted to remain the same as they were during habitat survey work in both 2016 and 2018.

- 2.2 The Chartered Institute for Ecology and Environmental Management (CIEEM)² suggests that habitat data of up to 3 years old may remain valid except “*in circumstances where the habitat or its management has changed significantly since the surveys were undertaken*”. The habitat survey data is considered to be relevant to the site at the time of submission of the application, and the assessment of impacts to remain valid.

The NVC survey, however, was undertaken in 2016 and is therefore some years out of date and should be repeated. (NPT LIR Appendices 1 to 6, Page 2 of Biodiversity Consultation Response. Reflected in para.11.3 of the Bridgend LIR).

- 2.3 This is not considered to be needed as avoidance measures have been built into the final scheme design. The aim of the NVC survey was to establish the communities present within an area of deeper peat on site. The habitats in this area were found to be modified due to nearby agricultural improvement and as a result of sheep grazing pressure. The wind farm layout has since been amended to remove a proposed turbine in the north-eastern part of the site and the proposed access track onto the site has been designed to avoid deeper peat based on more recent peat depth data (collected on 4 and 10 September 2018).

- 2.4 Paragraph 8.62 of the ES confirms that the infrastructure layout has been carefully designed to provide embedded mitigation, including the avoidance of deep peat. Given that measures have been taken to avoid areas of deep peat, and therefore, areas of higher quality habitat, we do not consider repeating the NVC to be necessary.

- 2.5 Paragraphs 6.419 to 6.422 set out a commitment to produce an Ecological Management Plan (EMP) for the site. This may include measures to enhance the area covered by NVC through implementation of appropriate habitat management. In this scenario, the EMP would be informed by an updated NVC survey immediately prior to construction to establish a baseline from which to set appropriate management objectives. The EMP will be agreed with statutory consultees.

The phase 1 habitat survey target notes are missing from appendix 6.3 therefore the presentation of this survey is incomplete, which hampers the full understanding of the habitats and species present. (NPT LIR Appendices 1 to 6, Page 2 of Biodiversity Consultation Response. Reflected in para.11.3 of the Bridgend LIR).

- 2.6 The omission of the text from Appendix 6.3 was unintentional. The missing text is appended to this letter for completeness.

² <https://cieem.net/wp-content/uploads/2019/04/Advice-Note.pdf>

An area of bog adjacent to the track in the area with the junction to the Pen y Cymoedd track has been identified in the survey as marshy grassland and scrape. This site is 'Black Bog' and is one of the most important remnant patches of open bog habitat and significant deep peat resources in the area. This is a section 7 habitat; wet modified bog and would likely fall under the blanket bog designation. While brief mention of this habitat is made, no peat depth map for the area is provided and an area of bare peat within a peat body multiple metres deep is identified at target note 28 as 'a dry scrape'. The area is shown in photographs 28 and 29 in appendix 6.3 and it can be clearly be seen that the habitat is peaty (NPT LIR Appendices 1 to 6, Page 2 of Biodiversity Consultation Response).

- 2.7 The area of 'Black Bog' (referred to by the NPT ecologist) is beyond the application site, and no direct impacts on this habitat will occur. Track widening works will be confined to made ground at the existing track verges and will be no more than 1 metre in width (see Figure 9.3 of the ES). Impacts on wet-modified bog are addressed in paragraphs 6.315 and 6.316 of the ES, and the conclusions remain valid. No hydrological impacts on adjacent areas of peat are anticipated (see chapter 8 of the ES). Measures will be implemented through the construction environment management plan (CEMP) to avoid any indirect impacts (through silting or pollution etc.) of the adjacent habitats.

*It is also worth mentioning that deergrass *Muhlenbergia rigens* as identified within the ecological report in appendix 6.3 is a member of the grass family Poaceae native to the Southern United States and Mexico, while deergrass *Tricophorum germainum* is a part of the sedge family Cyperaceae which is native to the UK and is the species actually found on site. Similarly the main Larch species identified with the plantation woodlands are Japanese Larch or a hybrid not European Larch. It is recommended that the survey be doubled checked for correctness and applicability to ensure confidence in the results (NPT LIR Appendices 1 to 6, Page 2 of Biodiversity Consultation Response).*

- 2.8 We can confirm that the deergrass recorded is *Tricophorum germanicum*. The incorrect Latin name was inserted when transcribing the raw survey data. All stands of larch are off-site, with much of the area east of the site boundary having been felled.
- 2.9 The recent Phase 1 habitat survey of the access route in 2020, and of the main site in 2018 were carried out by Caroline O'Rourke who is an experienced botanist with a Level 4 Field Identification Skills Certificate (FISC) from the Botanical Society of Britain and Ireland. The survey results are considered to be accurate.

There is a section of confusion in the text on habitat assessment – the marshy grassland section 6.110 - 6.113 talks about blanket bog and unimproved acid grassland so it's not clear what the assessment of marshy grassland actually is. (NPT LIR Appendices 1 to 6, Page 3 of Biodiversity Consultation Response. Reflected in para.11.4 of the Bridgend LIR).

- 2.10 The inclusion of 'unimproved acid grassland' in this section of the assessment was unintentional. Paragraph 6.113 of the ES should read:
- 2.11 "The degraded nature of the **marshy** grassland will limit its importance to below the level of the County. It is also common throughout Wales (particularly in its modified state). The marshy grassland is therefore considered to be of importance at the **Local** level"
- 2.12 The preceding paragraphs set out the NVC communities present within this habitat. These are dominated by M25 *Molinia caerulea*-*Potentilla erecta* mire and covered by the broad habitat classification of marshy grassland.

*While data from SEWBRc was retrieved, this data is now 4 years old and as such does not reflect the current species records of the area. Species that may have been missed include the presence of water vole (*Arvicola amphibius*), a section 7 species and protected under the Wildlife and Countryside Act 1981 as amended. (NPT LIR Appendices 1 to 6, Page 3 of Biodiversity Consultation Response. Reflected in para.11.4 of the Bridgend LIR).*

- 2.13 Evidence of water vole was recorded within the site during the survey work and impacts on water vole have been assessed (see paragraphs 2.35 and 2.36 of this document). It is unlikely that any further records held by SEWBRc would change the assessment as it proceeds on the assumption that water vole are present in the wider area.

Appendix 6.3 makes mention of a section 7 species, stag's-horn clubmoss. An important species in NPT that is largely restricted for forestry track-sides. However, the ES chapter does not mention this species at all and no mitigation measures are proposed. It should also be noted that records (provided by a local expert botanist) suggest that there are a number of Fir Clubmoss and Stag's Horn Clubmoss populations along the access track route that may have been missed in the survey. Further consideration is recommended to be given to these important species within the impact assessment and appropriate mitigation proposed for any losses due to the widening works. (NPT LIR Appendices 1 to 6, Page 3 of Biodiversity Consultation Response. Reflected in para.11.5 of the Bridgend LIR).

- 2.14 The survey work recorded the presence of stag's-horn clubmoss. The locations of fir clubmoss and stags-horn clubmoss provided by NPT are noted. These populations will be considered in the EMP and suitable protection measures will be built into the CEMP. It may be beneficial for the project ecologist to walk the access route with the construction engineer and council ecologist (or appointed specialist) to agree appropriate measures of protection ahead of finalisation of the EMP and CEMP documents.

6.301 refers to forestry felling for the track widening but 6.320 only discusses the impact of felling of plantation woodland on the main site (NPT LIR Appendices 1 to 6, Page 3 of Biodiversity Consultation Response).

- 2.15 There is no plantation woodland within the main site. The assessment in paragraph 6.320 of the ES chapter refers to felling of woodland along the access route.

...This suggests that there may be significant areas of felling needed to be undertaken to facilitate the track widening. This should be confirmed and the impact assessment in relation to the habitats and species that may be impacted by such felling, detailed (NPT LIR Appendices 1 to 6, Page 3 of Biodiversity Consultation Response).

- 2.16 The impacts of plantation felling are assessed at paragraph 6.320. The resultant effects on breeding on birds have not been assessed as protection measures would inevitably need to be taken to ensure legislative compliance. This is set out in paragraph 6.324. The measures to manage the implementation of appropriate protection measures would be included in the CEMP. If construction works occur during the breeding bird season, then measures will be implemented to ensure that continuous disturbance of nesting habitat does not occur. Works will also be preceded by a check for the presence of Schedule 1 species, such as crossbill or goshawk. If active nests are found within published disturbance distances for any Schedule 1 species, then indicators of disturbance will be monitored, and action taken to avoid adverse impacts until the nest has been fledged.

- 2.17 We anticipate that fewer than 20 trees, which are part of the commercial plantation, will need to be felled to permit passage of abnormal indivisible loads. It is anticipated that this will be limited to one line of trees and will be determined once the capabilities/requirements of the delivery vehicles are known. Natural Resources Wales may, however, request that larger areas are felled to ensure wind firmness, as would occur under normal felling operations.

With regards to the access track and the suitability of the survey work which has been completed to date, it is noted that references to the importance of the habitats present are related to those present within the Bridgend LBAP, however the access track and associated Section 7 habitats and species are located in Neath Port Talbot. No reference is made to the importance of these features in relation to the Neath Port Talbot Nature Plan or NPT SINC Criteria in line with NPT planning policy and SPG. We therefore are unable to fully understand the importance of the receptors or the significance of impacts (NPT LIR Appendices 1 to 6, Page 4 of Biodiversity Consultation Response).

- 2.18 There will be no impact on Section 7 habitats because of road widening. Impacts on Section 7 species are presented in the relevant species sections of the chapter. Measures will be incorporated into the CEMP to avoid impacts on fir clubmoss and stag's horn clubmoss populations. Any areas of deeper peat, and the higher quality habitats they support, will be identified during pre-construction geotechnical site investigation, and avoided. Table 6.9 and paragraphs 6.101 to 6.104 considers SINC within NPT. Paragraphs 6.304 to 6.307 assesses the impact on the NPT watercourses SINC and concludes there are unlikely to be any significant effects.

No reference to any habitat mitigation for losses or other impacts due to the widening is mentioned. There appears to be reference to protection of certain habitats (assumed to be mainly on the wind farm site rather than the access track) during construction. No commitment to post-construction management appears to be proposed for any retained habitats, therefore such habitats are likely to deteriorate in quality. Reliance appears to be on a monetary contribution to Bridgend CBC rather than securing any on-site management, habitat creation or improvement. Without detail of the proposal for the contribution it is difficult to understand how this will provide mitigation for impacts of the scheme and further detail should be provided. In addition, appropriate mitigation (and/compensation where mitigation is not possible) for any habitat or species impacts within NPT should be addressed within NPT (NPT LIR Appendices 1 to 6, Page 4 of Biodiversity Consultation Response).

- 2.19 The mitigation measures outlined in the ES chapter applies to the main site and areas affected by the access route works. All retained habitats are unlikely to be adversely affected.
- 2.20 Paragraphs 6.419 to 6.422 set out a commitment to produce an EMP for the site which will include post-construction management to be agreed with statutory consultees. Some on-site management may be possible (as indicated earlier in this document); however, given the limited scope for meaningful habitat management on site (primarily because of the extent of common land), a monetary contribution is the most transparent and demonstrable means to deliver biodiversity benefit and resilience in accordance with the requirements of Planning Policy Wales 11. The ES chapter proceeds on the basis that Bridgend CBC has confirmed that there are local initiatives that would be able to deliver benefit, noting that biodiversity benefit is not constrained by county borders.

The widening in the Black Bog area may directly impact or be hydrologically connected to areas of habitat restoration in the Pen y Cymoedd HMP... (NPT LIR Appendices 1 to 6, Page 4 of Biodiversity Consultation Response)

- 2.21 The extent of widening near the black bog area is presented in Figure 9.3 of the ES. It can be seen that widening will not take place beyond the extent of existing made ground. No hydrological impacts on adjacent areas of peat are anticipated (see chapter 8 of the ES). It is very unlikely (given that standard environmental protection measures will be built into the CEMP) that the proposals would impede implementation of the Pen y Cymoedd HMP.

In addition, whilst the existing Pen y Cymoedd track is already used, traffic has decreased since construction. An increase in traffic during construction could have impacts upon habitats and species immediately adjacent to the track e.g. disturbance or dust deposition (NPT LIR Appendices 1 to 6, Page 4 of Biodiversity Consultation Response).

- 2.22 Measures to implement dust, noise and vibration control will be set out in the CEMP and implemented during the construction phase to ensure that impacts are avoided.

Birds

The survey effort in relation to the Honey Buzzard survey is not in line with standard survey methods. 6.34 reports an additional 12 hours of survey undertaken for this species, however the standard methods issued by the RSPB normally require: 3 days (8 hour watch per day) at each watch point May/June; another 3 days in June if nest not located in earlier watch period; 3 days July/Aug). (NPT LIR Appendices 1 to 6, Page 5 of Biodiversity Consultation Response. Reflected in para.11.6 of the Bridgend LIR)

- 2.23 The area surrounding the Neath Valley is monitored intensively for honey buzzard activity on an annual basis. Steve Roberts³ indicates that, for at least the last ten years, territories have been typically present in areas in excess of 9 km from the site.
- 2.24 Targeted vantage point surveys at the site were undertaken in the first year of bird survey work to check for local flight activity of honey buzzard. A clear rationale for the survey effort employed is presented in paragraphs 6.31 to 6.33 of the ES. It was also clear that further work on honey buzzard was being undertaken concurrently to inform the adjacent Llynfi Afan scheme, and this data was obtained to inform the Upper Ogmores assessment.
- 2.25 Given that the Upper Ogmores wind farm is located on an upland ridge, with suboptimal breeding habitat for honey buzzard locally, the EIA has concluded that the risk of any impacts occurring is very low. No flights of honey buzzard were observed during targeted survey work in 2014, or during standard vantage point survey work in 2014, 2015 and 2020.

It is also noted that the wintering bird survey was undertaken in 2014/2015 and is therefore out of date and it is unclear whether the results are still applicable. (NPT LIR Appendices 1 to 6, Page 5 of Biodiversity Consultation Response. Reflected in para.11.7 of the Bridgend LIR).

- 2.26 There is no requirement under SNH (2017) guidance to undertake winter walkover survey work. Vantage-point survey work was undertaken more recently (between October 2015 and March 2016 inclusive). The winter walkover work undertaken at Upper Ogmores resulted in an impoverished winter bird community being recorded. This is unlikely to have changed given that the habitats at the site have remained the same, and that flight activity recorded during the subsequent winter period VP survey work has been consistently low.

No updated bird surveys have been undertaken along the access track and therefore it is unclear whether the widening works would result in any bird habitat removal and/or displacement of birds/territories (NPT LIR Appendices 1 to 6, Page 5 of Biodiversity Consultation Response).

- 2.27 We consider there to be little value in updating the breeding bird survey work for the track widening works given that forestry habitats change significantly due to the rotational nature of operations. It is acknowledged that goshawk and crossbill are likely to breed in areas of plantation of suitable structure and maturity near to the proposed track widening works, and impacts have been assessed. However, the location of both suitably mature stands, and breeding territories are likely to change between the point of submission of the application and the construction phase. Breeding bird checks will be undertaken immediately before construction commences to inform appropriate protection measures, and these will be set out in the EMP and CEMP.

A loss of bird habitat is recognised on the main site and it is inevitable with vegetation clearance for the track widening however no mitigation is proposed to address this in line with the requirements of the Conservation of Habitats and Species Regulations 2017. (NPT LIR Appendices 1 to 6, Page 5 of Biodiversity Consultation Response. Reflected in para.11.8 of the Bridgend LIR).

- 2.28 The extent of vegetation clearance will include a very minor area of existing track verge and sitka spruce plantation edge. It is very unlikely that disturbed ground adjacent to the existing track would support breeding birds, and its loss will not result in a significant effect.
- 2.29 Loss of habitat for ground-nesting birds on the main site will be compensated for through land swap of 16.81 ha of improved pasture (see Figure 12.2 and paragraph 6.423 of the ES). It is considered likely that the replacement land would develop into an acid and marshy grassland mosaic, reflective of the common land lost to the development, when taken out of active agricultural improvement.
- 2.30 Impacts on birds because of felling are presented earlier in this letter.

³ Steve Roberts has led long-term honey buzzard monitoring work within the Neath Valley and wider area.

Bats

The walked bat survey transect is also out of date having not been updated since 2015/2016. Further justification for this should be provided (NPT LIR Appendices 1 to 6, Page 5 of Biodiversity Consultation Response. Reflected in para.11.9 of the Bridgend LIR).

- 2.31 The multi-agency guidance for bat survey at wind farms (SNH et al., 2019; which supersedes the BCT, 2012 guidance) does not recommend that transect surveys are undertaken as standard to inform impact assessments. The updated bat survey work (undertaken in 2019) was completed in line with the SNH guidance, and the methods are set out in paragraphs 6.43 to 6.46 of the ES chapter.

No bat survey has been undertaken along the route of the access track, therefore it is unclear if any important foraging habitat, for example, is likely to be lost. Further survey is recommended to be undertaken (NPT LIR Appendices 1 to 6, Page 5 of Biodiversity Consultation Response)..

- 2.32 No bat survey of the forestry track was considered necessary. Impacts on bats are unlikely to occur given that construction works will be minor in extent, will not lead to a loss of commuting or roosting habitat, and will be undertaken during daylight hours. Whilst the removal of small areas of vegetated verges may reduce the abundance of invertebrate prey, the effects on foraging bats are unlikely to be perceivable. The extended Phase 1 survey of the existing NRW forestry track did not identify any trees with potential to support a bat roost (see paragraph 6.48 of the ES).

Amphibians

Due to false positive and negative Great Crested Newts results being recorded at developments within NPT in the past we have reservations on the reliance of eDNA as the only sampling technique for the ponds along the access track. It is suggested that additional survey work is undertaken using the other methods employed for the main site ponds (NPT LIR Appendices 1 to 6, Page 6 of Biodiversity Consultation Response).

- 2.33 The methods used to survey for great crested newt are considered appropriate for the site. The methods have been endorsed by NRW⁴, CIEEM, and the Amphibian and Reptile Group (ARG) UK.
- 2.34 The ponds adjacent to the access track have been sampled on two occasions (initially in 2016 and again in 2020) and tested negative for the presence of great crested newt on both occasions. The ES sets out the rationale for use of eDNA survey at paragraph 6.50. The method was considered appropriate due to the suboptimal quality of the ponds and surrounding habitats, isolation of the ponds from other pond networks in the local area, and the absence of great crested newt from the site (inferred following survey of the on-site ponds).

Water vole

The water vole survey for the track widening has limited survey extent, only considering 100m along 2 watercourses as part of the phase 1 habitat survey. An upland water vole population has been confirmed via surveys undertaken on behalf of NRW and Vattenfall in the vicinity and connected habitat. This species is utilising the forestry ditch system and are not limited to watercourses. (NPT LIR Appendices 1 to 6, Page 6 of Biodiversity Consultation Response. Reflected in para.11.10 of the Bridgend LIR).

- 2.35 Water vole survey was undertaken at the site in 2016 and 2020. All watercourses within 100 m of the access track were also checked for signs of water vole during Phase 1 surveys in 2016 and 2020 in line with recommended survey distances provided by Dean, et al (2016) (as set out in paragraph 6.51 of the ES). No signs of water vole were recorded near to the access track.
- 2.36 Notwithstanding the above, a water vole conservation strategy will be prepared alongside the EMP ahead of commencement of construction works. This approach has been agreed in consultation

⁴ <https://naturalresources.wales/media/3509/guidance-on-use-of-dna-sampling-of-great-crested-newts.pdf>

with NRW and is committed to in paragraph 6.433 of the ES. Measures to avoid impacts on this species will also be set out in the CEMP.

Reptiles

It is noted that good practice measures will be applied via a CEMP or EMP, this is considered likely to be appropriate but the description set out in 6.432 is not considered appropriate for the track widening where adjacent suitable habitat to allow dispersal may be limited and features (such as hibernacula) may be present. A more detailed description considering the habitats and features likely to be present along the track should be presented. (NPT LIR Appendices 1 to 6, Page 6 of Biodiversity Consultation Response. Reflected in para.11.11 of the Bridgend LIR).

- 2.37 Impacts on reptiles alongside track verges are unlikely to occur in accordance with the assessment at paragraph 6.340, and mitigation at paragraph 6.432 of the ES. It is unlikely that the minor, localised widening works proposed to an existing forestry track would prevent dispersal of reptiles.
- 2.38 The measures for ensuring protection of reptiles during the works will be outlined in detail in the CEMP and EMP. This will include measures to re-locate hibernacula, or other features that may be used by reptiles, from the footprint of the widening works. A walkover of the access route can be undertaken with the construction engineer and council ecologist (or appointed specialist) to agree appropriate measures ahead of finalisation of the EMP and CEMP documents.

Biodiversity enhancement

No proposals for enhancement in line with planning policy and the Environment Wales Act 2016 are currently proposed as relate to the biodiversity of NPT. Contributions to Bridgend initiatives are included but no similar approach has been made in NPT. Enhancement proposals for habitats/species within NPT are recommended to be provided (NPT LIR Appendices 1 to 6, Page 6 of Biodiversity Consultation Response).

- 2.39 The proposed contributions will provide a net benefit to biodiversity locally, irrespective of whether this occurs in Bridgend or NPT. Substantial on-site enhancements are not considered viable given the continuation of land management. However, the EMP will outline management measures within the site to provide some on-site enhancement. These measures are summarised at paragraphs 6.419 to 6.422 of the ES.

Cumulative Assessment

It is noted that the impact on kestrel is suggested as a potential cumulative impact, raising the geological extent of impact. However it is stated that any effects may be partially offset by measures delivered by other windfarms. It therefore follows that albeit some level of this cumulative impact may be mitigated for there is still a potential cumulative impact that raises the significance of the impact reported for the development. As such it is ever more important to provide further clarification on the mitigation for this impact to enable assessment of adequateness. (NPT LIR Appendices 1 to 6, Page 7 of Biodiversity Consultation Response. Reflected in para.11.12 of the Bridgend LIR).

- 2.40 Benefits for kestrel will be included in the funded local initiative to offset the local-level effect predicted for the proposed development. On-site measures that would benefit kestrel are not viable, particularly given that any proposed measure would ultimately attract birds into the wind farm and increase collision risk.

Monitoring

As a significant impact for kestrel has been identified raptor monitoring is recommended to be undertaken alongside carcass searches to enable assessment of success or otherwise of the mitigation and any need for further remedial action. Similarly bat carcass monitoring would also be beneficial. (NPT LIR Appendices 1 to 6, Page 7 of Biodiversity Consultation Response. Reflected in para.11.14 of the Bridgend LIR).

- 2.41 Whilst the ES concludes a locally significant effect on kestrel as a result of collision, the predicted mortality remains low (1 bird every 3 years), and below the likely level of recruitment to the population. This is set out in paragraphs 6.365 to 6.371 of the ES. Bird collision monitoring would not be proportionate given this conclusion. Substantial monitoring effort would be required to provide a meaningful result (as birds could collide at any time, and carcasses are likely to be quickly removed by scavengers). Undertaking seasonal or monthly 'snapshot' searches is unlikely to provide any indication of mortality rate.

The research in relation to bats and wind farms is limited and there is some evidence that upland locations may be used by bats at specific times of the year and in certain weather conditions, more monitoring data is needed to feed into the evidence to inform best practice and as such all wind farms should contribute....A commitment to bat monitoring for at least the first 3 years following operation would be beneficial with the ability to extend such if need be and dependent upon results. (NPT LIR Appendices 1 to 6, Page 7 of Biodiversity Consultation Response. Reflected in para.11.14 of the Bridgend LIR).

- 2.42 The habitats present at Upper Ogmores (open common land and improved pasture on an upland ridge) are not comparable to those at Pen y Cymoedd (for example). The use of both sites by bats is likely to be very different.
- 2.43 The bat activity at Upper Ogmores has been assessed at 'Low Risk' in line with the SNH et al (2019) guidance and does not meet the trigger threshold for requiring monitoring work (see paragraph 6.429 and 6.430 of the ES). This assessment is based on data collected in autumn 2015; spring, summer and autumn 2016; autumn 2018; and spring, summer and autumn 2019; resulting in a total of 3168.5 hours of survey. It is therefore considered that seasonal variation has been appropriately sampled. Weather data was also collected during the sampling periods in 2019, and has indicated a very weak correlation between weather variables and bat activity at the site (see Table 8 in Appendix 6.3 of the ES).
- 2.44 It is proposed (at paragraph 6.431 of the ES) that turbine blades are pitched out of the wind (feathered) to reduce their rotation speeds below 2 rpm when idling. SNH et al. (2019) suggest that this measure may reduce fatality rates by up to 50 %.

Assessment

It should also be noted that the assessment in relation to the importance of ecological receptors and the approach take to assessment of significance does not follow best practice. As such we are concerned that the levels assigned misrepresent the importance of such receptors. (NPT LIR Appendices 1 to 6, Page 2 of Biodiversity Consultation Response. Reflected in para.11.2 of the Bridgend LIR).

- 2.45 The evaluation and assessment of impacts on ecological receptors has been based on the 2018 Guidelines for Ecological Impact Assessment in the United Kingdom developed by the Chartered Institute of Ecology and Environmental Management (CIEEM, 2018). Although this is recognised as the industry standard for ecological assessment, the guidance is not prescriptive; rather, it aims to "provide guidance to practitioners for refining their own methodologies". The methods used in this assessment are presented in paragraphs 6.53 to 6.85 of the ES.

Overall, we have concerns have the use of out-of-date survey data and data collected using suboptimal survey effort/techniques. We consider the survey information collected to date, to inform the development proposal, inadequate. Further checks and updates to the above are recommended to ensure the results presented are representative of the current situation and therefore the impact assessment correct and mitigation proposals relevant. Without an adequate baseline we are unable to fully assess the proposal and establish acceptability of mitigation. (NPT LIR Appendices 1 to 6, Page 10 of Biodiversity Consultation Response. Reflected in para.11.25 of the Bridgend LIR).

- 2.46 Each specific comment on survey validity has been addressed in the preceding paragraphs. We consider the baseline to be adequate to fully assess the proposal.

3 Appendix 1. Phase 1 Habitat Survey Target Notes

The below text should be inserted at page 94 of **Appendix 6.3**.

1. Lightly grazed acid grassland area with average sward height of 40cm, where peat exposures are present a depth of 40cm was recorded. Dominated by purple moor grass *Molinia caerulea*, with frequent matt grass *Nardus stricta*, bilberry *Myrtillus vaccinium*, common haircap *Polytrichum commune* var *communi*, heath woodrush *Luzula multiflora*, heath rush *Juncus squarrosus*, common heather *Calluna vulgaris*, and heath bedstraw *Gallium saxatile*. *Sphagnum* moss (one or more species) occurs occasionally along with sweet vernal-grass *Anthoxanthum odoratum*, tormentil *Potentilla reptans*, soft rush *Juncus effusus* and carnation sedge *Carex panicea*. Locally abundant deer grass *Scirpus cespitosus* is present where ground conditions are wetter. Localised patches of broad buckler *Dryopteris dilatata* occur on north facing slopes and depressions and a single self-seeded pine *Pinus* spp. seedling was also recorded.
2. Trackway crossing. The same vegetation is present as described in TN1 but with evidence of compaction and trampling influencing the vegetation structure.
3. Natural bedrock rock exposures on scarp slope with a very steep gradient attributed to land slips. Large scree slopes of weathered rock exposures are present on the slopes below, which eventually give way to bracken *Pteridium aquilinum* stands where the gradient softens. Acid grassland forms a mosaic around the scree slopes and bracken stands.
4. Along the crest of the scarp slope the abundance of purple moor grass is reduced within the sward as the soil becomes freer draining. Common bent *Agrostis capillaris* and sheep's fescue *Festuca ovina* become more dominant, with purple moor grass present occasionally.
5. Grazing pressure locally increased with the sward correspondingly shorter. to 8cm tall over a peat depth of 20 cm. Occasional fissures are present up to 50 cm deep in which lady fern *Athyrium filix-femina* is present occasionally. Purple moor grass dominates with matt grass and deer-grass occurring frequently. Present occasionally are green-ribbed sedge *Carex binervis*, heath rush *Juncus squarrosus* and glaucous sedge *Carex flacca*.
6. A small pond, 15 m by 7 m in area with an oval shape. The margins of the pond are poached by livestock with soft rush dominating the un-poached sections, common haircap *Polytrichum commune*, a water crowfoot sp. *Ranunculus* sp., a water starwort *Callitriche* sp., toad rush *Juncus bufonius* and marsh foxtail *Alopecurus geniculatus* occur occasionally.
7. Lower section of ground with a peat depth of 12 cm. Matt grass and common bent dominate with frequent purple moor grass and occasional deer grass, soft rush, bilberry *Vaccinium myrtillus*, heath rush and glaucous sedge. Either side of the lower lying area peat depths reach 1 m and purple moor grass dominates.
8. A circular pond with a diameter of 10 m with soft rush dominating the margins with occasional floating sweet grass *Glyceria fluitans*, *Sphagnum* mosses, marsh foxtail, water crow foot sp. and toad rush.
9. A section of flooded track which appears to hold water year-round with a width of 2 m and a length of 40 m, aquatic vegetation is limited to very occasional water starwort and water crowfoot species.
10. Dry acid grassland with dominant common bent and sweet vernal-grass with occasional purple moor grass and heath bedstraw, frequent common heather, bilberry, matt grass, green-ribbed sedge, common haircap, springy turf moss *Rhytidiadelphus squarrosus*, *dicranum* spp., heath wood rush *Luzula multiflora*, heath rush and tormentil also occur. Soft rush is present very occasionally.
11. Land slippage fault up to 2 m deep and 1 m wide with exposed bedrock on the sides which support hard fern *Blechnum spicant*.

12. Masts in a fenced compound with two brick buildings with flat roofs and uPVC fascias and some wooden fascias in poor condition. The buildings ground-floor windows have been boarded up with metal or plywood for protection against vandalism, some of the higher-level windows, are unprotected and have been broken. Those windows that are visible have well-fitted frames in reasonable condition.
13. Roadside verge. With semi-improved grassland present dominated by sweet vernal-grass and common bent on the raised banks of the road, also present are frequent sheep's fescue, springy turf moss, marsh thistle *Cirsium palustre*, common nettle *Urtica dioica*, white clover, eyebright *Euphasia nemorosa*, tormentil, mouse eared hawkweed *Pilosella officinarum*, and in areas of bare ground urn haircap moss *Pogonatum urnigerum* is locally abundant. A large number of waxcap fungi, seemingly all one species, and yellow in colour thought to be *Hygrocybe acutoconica* var. *acutoconica*, occurred on the material used to raise the level of the road and to form bunds along the road edge.
14. Marshy grassland dominated by purple moor grass with soft rush and *Sphagnum* sp. abundant, over peat ranging in depth from 65 cm to 45 cm. Common bent occurs frequently along with common haircap, heath rush and bladder sedge *Carex vesicaria* with occasional wavy hair grass *Deschampsia flexuosa*, springy turf moss and heath bedstraw. Also present occasionally are star sedge *Carex echinata*, bog asphodel *Narthecium ossifragum*, sweet vernal-grass, marsh thistle, marsh willowherb *Epilobium palustre*, compact rush *Juncus conglomeratus*, tormentil, hare's-tail cotton grass *Eriophorum vaginatum* and cross-leaved heath *Erica tetralix*.
15. Semi-improved acid grassland on the sides of a small valley, dominated by sweet vernal-grass and common bent, frequent purple moor grass, and abundant sheep's fescue and springy turf moss. Occurring occasionally were tormentil, heath bedstraw, marsh thistle, smooth meadow grass *Poa pratensis*, wavy hair grass, matt grass, white clover *Trifolium repens*, creeping buttercup *Ranunculus repens*, cuckoo flower *Cardamine pratensis* and foxglove *Digitalis purpurea*. In places where ground water emergence causes localised wetter ground conditions, soft rush dominates.
16. Improved grassland located on a flat plateau where cultivation with machinery has been possible. The field had been recently topped at the time of survey with evidence suggesting that soft rush had been locally dominant in patches. The fields are typically used for grazing sheep with a short sward. There was abundant smooth meadow grass *Poa pratensis*, crested dog's tail *Cynosurus cristatus*, perennial rye-grass *Lolium perenne*, timothy *Phleum pratensis*, white clover, creeping buttercup, common mouse-ear *Cerastium fontanum* and spring turf moss. Present occasionally were marsh thistle and spear thistle *Cirsium arvensis*.
17. Unimproved acid grassland. Dominated by sweet vernal-grass with frequent sheep's fescue, matt grass, wavy hair grass and purple moor grass, tormentil, green-ribbed sedge, springy turf moss, field wood rush, with occasional tall fescue. The transition from plateau to steep scarp slope is marked by a localised abundance of soft rush. As the gradient steepens further there is a consequent reduction in sheep grazing pressure, bilberry and common heather presence in the sward increases from 5 % to 25 %, and wavy hair grass also becomes more abundant. Lemon-scented fern *Oreopteris limbosperma* occurs occasionally.
18. Sandstone escarpments on steeper ground with ledges dominated by wavy hair grass, bilberry, and common heather with frequent sheep's sorrel *Rumex acetosella*, the bare rock supports crustiose and foliose lichen species and an array of cushion-forming moss species.
19. Cleared plantation now dominated by purple moor grass with abundant common bent, frequent Yorkshire fog *Holcus lanatus* and sweet vernal-grass, soft rush is present occasionally. This coarse grassland habitat extends up into the plateau area, encroaching some 5 m into the field.
20. Unimproved acid grassland, dominated by sweet vernal-grass, common bent and sheep's fescue with purple moor grass dominating locally in discrete clumps and swathes. Soft rush is present in occasional clumps on slopes but in slippages, trackways and along fence-lines it becomes frequent. Springy turf moss is abundant in the sward with matt grass and wavy hair grass occurring frequently along with tormentil, heath bedstraw and bilberry. Heath woodrush and green-ribbed sedge also occur occasionally.

21. Wet flush with small shallow pools over a peat depth of 40 cm. Common cotton grass *Eriophorum angustifolium* is locally dominant in one pool with common spike-rush *Eleocharis palustris* dominating in a second pool. Common haircap is abundant along with occasional water starwort sp., lesser spearwort *Ranunculus flammula* and a water crowfoot *Ranunculus* sp. Jointed rush *Juncus articulatus*, floating sweet grass *Glyceria fluitans* and marsh foxtail are present on the pool margins with soft rush is present in a damp depression that runs downhill from the flush area. A common lizard *Zootica vivipara* was observed in the rushes on the margin of the flush.
22. A juvenile common lizard was observed basking on a rock exposure.
23. Small flush dominated by *Sphagnum* sp. with some open water and a slight flow. Marsh thistle is occasional and purple moor grass dominates the drier margins on either side. Abundant water vole droppings were found in the channel.
24. An area of wet modified bog with a peat depth of 1.6m. A low sward of purple moor grass dominates with frequent deer grass, common cotton grass and common haircap. Common heather *Calluna vulgaris* is also present very occasionally.
25. Part of the same bog as TN24 above with a peat depth of 2.25 m with a similar vegetation community but with the addition of wavy hair grass. The peat has been eroded in places with gullies up to 1m lower than surrounding areas present, vegetation in the gullies is similar to the un-eroded surrounds, but with the addition of heath milkwort *Polygala serpyllifolia* and hares-tail cotton grass. This area is separated from TN24 by a road with associated ditches on either side to 1.5 m deep and 3m wide with soft rush in the base of the ditch but no standing water at the time of survey.
26. A small stream with a bedrock and weathered bedrock substrate. Situated on a steep gradient and with steep banks comprised of peat. Tussocks of purple moor grass and soft rush line the stream and in places almost completely obscure it from sight. A slight flow was recorded at the time of survey, but erosion features and flood debris were observed indicating periods of very high flow. Water vole burrows and runs, along with high numbers of droppings, were recorded.
27. Small flush above a spring that feeds the stream in TN28 below. The flush has a peat depth of 1.15 m, is dominated by purple moor grass and soft rush with abundant *Sphagnum* sp., frequent common haircap, star sedge, tufted hair grass, and occasional lady fern, opposite leaved golden saxifrage, lesser skullcap *Scutellaria galericulata*, marsh violet *Viola palustris*, hares-tail cotton grass, heath rush, tormentil, cross-leaved heath, bilberry and common heather on drier areas.
28. Small stream 30 cm wide and 60 cm deep with a fast flow. Abundant water forget-me-not *Mysotis scorpioides* occurs on its banks with occasional lesser spearwort, marsh willowherb, cuckoo flower and water starwort sp. in the poached margins.
29. Occasional ant hills are present on the steep slope along with small scree slopes below rock outcrops.