Response to 'Response to Observations Received Ballivor Wind Farm (ABP Ref. 316212)'

On behalf of DRB Community Company Limited by Guarantee

By Jesmond Harding

Marsh Fritillary, Grangemore, N 64551 53675, County Westmeath.

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1.1 INTRODUCTION

Jesmond Harding was requested by DRB Community Company Limited by Guarantee to survey areas of the Ballivor Bog Group in May 2023. Arising from the time constraints that applied, the survey was carried out on two dates, 25 May 2023 and 29 May 2023.

Jesmond Harding is the author of two books, “Discovering Irish Butterflies & their Habitats” published in 2008 and "The Irish Butterfly Book" published in 2021 He has had articles published in various periodicals including the Irish Naturalists’ Journal, Peatland News (Irish Peatland Conservation Council), Wings (BirdWatch Ireland) and the online nature magazine Wildlife Extra. He featured in the third series of “Living the Wildlife” (episode 2) and “The Burren: Heart of Stone” (Episode 1). He was part of the expert group that drew up the red list for Irish butterflies in 2010. He is a member of the Irish Peatland Conservation Council, Burrenbeo Trust, and a founding member of Butterfly Conservation Ireland. He is Conservation Officer for Butterfly Conservation Ireland. Jesmond gives talks on butterflies and advises on habitat creation and management. He is involved with several Lepidoptera recording programmes. He is an author, editor and member of the coordination committee for the Butterfly Atlas Project 2010-2021 led by the National Biodiversity Data Centre and works with the Burrenbeo Trust to manage limestone habitats. Jesmond manages Butterfly Conservation Ireland’s website and Butterfly Conservation Ireland's reserve at Lullybeg, County Kildare.

On January 22, 2024, Jesmond Harding was provided with a copy of the report prepared by MKO Consultants in response to requests issued by An Bord Pleanála on the 20th of June 2023 (Third Party Submissions) and the 29th of June 2023 (Local Authority Reports). The applicant was invited by An Bord Pleanála to respond to all observations received to the application. Jesmond Harding was asked DRB Community CLG to prepare a response to the response provided on behalf of the applicant by MKO Planning and Environmental Consultants. This response follows. The applicant’s response is provided following the response provided on behalf of DRB Community CLG.

2.1.3.2.3 Impact on the Marsh fritillary

Several submissions were received with regard to potential impacts to marsh fritillary, including one from DRB Community CLG which included a Lepidoptera report undertaken by Jesmond Harding. This report included results of surveys carried out in May 2023 during the adult marsh fritillary flight period and concluded with four main concerns regarding the assessment of this species:

Concerns over Section 6.6.2.1.6 of the EIAR which states the timing of marsh fritillary surveys carried out in 2020;

Concerns over Section 6.6.2.1.6 of the EIAR which states that no suitable marsh fritillary habitat was identified within the construction footprint of the proposed development;

Based on the identification of a breeding site within the construction footprint, as per the report provided in the submission, the decision not to include marsh fritillary as a Key Ecological Receptor (KER) should be reviewed.

Highlights that rewetting of cutover bog within the Ballivor group would be beneficial to the metapopulations of marsh fritillary in the wider environment.

Based on the above concerns, the report advises that marsh fritillary are included as a Key Ecological Receptor (KER) and an impact assessment should be undertaken. The points below address each of these concerns and in doing so, address all other submissions relating to marsh fritillary.

The following contains the applicant’s response to these points and the response on behalf of DRB Community CLG.

Applicant's response

2.1.3.2.3 Impact on Marsh fritillary

Section 6.6.2.1.6 of the EIAR states that adult marsh fritillary were identified during the multidisciplinary walkover survey of the proposed development site in April 2020. The Lepidoptera report included in the submission highlights that adults are unlikely to be seen at this time year. In response, it can be confirmed that the above date was recorded in error, and this text should have noted that adult marsh fritillary were identified during the multi-disciplinary walkover survey carried out on the 26th May 2020.

1.2 DRB Community CLG Response

This correction is welcome. The weather conditions on 26 May 2020 were warm and sunny, and ideal for observing the Marsh Fritillary.

2.1.3.2.3 Impact on Marsh fritillary

Applicant's response

Suitable marsh fritillary habitat within the construction footprint of the proposed development

The proposed development has been designed to avoid areas identified as potential significant habitat for marsh fritillary, which were recorded during surveys in 2020. No areas identified as providing suitable habitat for this species are located within the proposed development footprint.

The Lepidoptera report provided by DRB Community CLG details results from four locations within the proposed development site boundary which were surveyed in May 2023. Concern was raised as this report identified a marsh fritillary breeding site (Site 1 of the report) to be within the footprint of the proposed development. However, as indicated in Figure 3-1 in the Marsh Fritillary survey document provided in Appendix 1 of this submission response, none of the sites surveyed in the report are within the footprint of the proposed development.

However, taking into consideration the findings of the Lepidoptera report, including the identification of marsh fritillary breeding sites in close proximity to the footprint of the proposed development, additional surveys were undertaken on a precautionary basis on the 22nd of August 2023, to ground truth previous surveys carried on the site in 2020, 2021, and 2022, and following on from the surveys undertaken by a third party in 2023. The findings of these additional surveys are provided in the Marsh Fritillary survey document in Appendix 1.

1.3 DRB Community CLG Response

The response to the above is stated in responses to the applicant's information at 3.3.1, 3.3.2, 4.1 and 4.2.

2.1.3.2.3 Impact on Marsh fritillary

Applicant's response

The inclusion of marsh fritillary as a KER

Considering the findings and recommendations of the DRB Community CLG Lepidoptera report, as well as the results of the 2023 surveys, marsh fritillary have been included as a KER in response to the concerns raised in the submissions and an impact assessment has been undertaken in the Marsh Fritillary survey document included as Appendix 1 of this response.

The Marsh Fritillary Impact Assessment took account of surveys carried out on behalf of the applicant in 2020, 2021 and 2022, the survey undertaken by Jesmond Harding for DRB Community CLG and a further survey conducted later in 2023 which identified three Marsh Fritillary larval webs as follows:

Plate 3-4 Marsh fritillary larval web recorded at IG N63629 57298, approximately 30m west of proposed road infrastructure and adjacent to Site 1 of the DRB Community CLG Lepidoptera report.

Plate 3-5 Marsh fritillary larval web recorded at IG N63621 57275, recorded approximately 5m south of the web depicted in Plate 3-4.

Plate 3-6 Marsh fritillary larval web recorded at IG N63619 57279, approximately 10m west of proposed road infrastructure and 15m north of Site 1 of the DRB Community CLG Lepidoptera report.

1.4 DRB Community CLG Response

A "Key Ecological Receptor" (KER) is defined as a species or habitat occurring within the zone of influence of the Proposed Development upon which likely significant effects are anticipated. "Zones of Influence" (ZOI) for individual ecological receptors refers to the zone within which potential effects are anticipated. ZOIs differ depending on the sensitivities of particular habitats and species and were assigned in accordance with best available guidance and through adoption of a precautionary approach. The zones of influence for the Marsh Fritillary differ according to the site characteristics, such as the topography of the surrounding landscape, including the levels of exposure to wind and sunlight, the soil moisture levels, and whether these characteristics will be changed by developments such as tree and scrub removal or development, the excavation of soil near a habitat and the erection of structures that have a shading effect or require drainage.

3.3 Surveys undertaken in 2023

3.3.1 Potential suitable marsh fritillary habitat

Areas identified as providing potential suitable habitat for marsh fritillary during previous survey efforts and in the DRB Community CLG Lepidoptera report were surveyed, as well as any other areas identified during the survey. On a precautionary basis, areas previously identified as providing potential suitable marsh fritillary habitat have been extended and now small sections of potential habitat, totalling 0.049 ha, are within the Proposed Development footprint. Areas identified as potential suitable habitat are indicated in in Figure 3-1.

1.5 DRB Community CLG Response

It is a matter of concern that the time constrained surveys carried out in May 2023 on behalf of DRB Community CLG identified habitat for the Marsh Fritillary not identified in previous surveys. It is a matter of concern that 490 square metres of potential habitat is within the proposed development footprint.

3.3.2 Evidence of marsh fritillary

Three marsh fritillary larval webs were recorded within an area identified as providing suitable habitat during the 2023 survey effort and are shown in Plates 3-4 to 3-6. This area is located between proposed Turbines 13 and 14 in the vicinity of Site 1 of the DRB Community CLG Lepidoptera report. The locations of the larval webs are shown in Figure 3-1. All larval webs recorded were outside the footprint of the Proposed Development.

1.6 DRB Community CLG Response

Finding only three larval nests on 22 August 2023 raises concern about the survey.

May and June 2023 were mainly dry, with above average sunshine and temperatures in both months. June 2023 was the warmest June on record. The weather conditions favoured early adult emergence and breeding, and accelerated development was noted with the first larval nest nationally recorded by Jesmond Harding on a bog site in County Kildare on 29 June 2023. This date is over three weeks earlier than the previous earliest known date for the appearance of a larval nest on the site.

The development of Marsh Fritillary larvae is reliant on warmth with direct sunlight in spring especially critical. At 3.3.1 the report points out that the potential breeding habitat identified between Turbines 13 and 14

"*are areas that are exposed to high levels of sunlight and with an abundance of devil's bit scabious. Sward height in these areas was varied and no evidence of grazing was present. Plates 3-1, 3-2, and 3-3 show typical areas identified as providing potential suitable habitat for marsh fritillary*."

The timing of larval web surveys in summer and autumn must consider the prevailing weather conditions during and following the adult flight period and site characteristics. When these circumstances favour rapid development, larvae enter their overwintering diapause earlier than on cooler, wetter sites in cooler years, but 2023 was the warmest year on record. Examining the photographs of the larvae included in the report, these are in the third instar (characterised by spines that project away from the anal segment). This is the final instar before the overwintering stage is reached. Synchronous development is not a marked feature of this species across a population; larvae shown in the report could be late developing larvae from eggs laid later during the flight period. When the diapause phase is reached, the larvae disappear until spring, forming dense hibernaculum webs out of sight beneath vegetation.

It is possible that larval webs were missed owing to survey timing. In addition, the extent and quality of the habitat and the recording of 18 adults on Site 1 on 29 May 2023 suggests that a figure greater than three larval webs with a wider spatial distribution can be expected. In this regard, it is suggested that a survey for Marsh Fritillary nests be repeated in March and April 2024. At a minimum, this survey needs to be carried out on Site 1 and for c.300m southwards along the railway bank and c. 300m south of the proposed location of turbine 13.

4. MARSH FRITILLARY IMPACT ASSESSMENT

4.1 Assessment of the Potential Impacts on marsh fritillary during construction

At 4.1 The Marsh Fritillary Impact Assessment contains the following statements:

The Proposed Development footprint has been specifically designed to avoid areas identified as providing suitable habitat for marsh fritillary where possible. However, following on from the 2023 survey effort, a highly precautionary approach was taken, and small sections of potentially suitable marsh fritillary habitat were identified at the very edge of the Proposed Development footprint (Figure 3-1). Therefore, there will be a direct loss of some small areas of potential habitat, totalling approximately 0.049 ha.

The loss of approximately 0.049 ha of potential suitable habitat for marsh fritillary will be slight in nature and suitable habitat is abundant in the wider landscape and no significant impacts are anticipated. However, the opportunity for implementing a marsh fritillary management plan will be taken to enhance and promote further areas of suitable habitat within the development site. The implementation of this plan will negate the slight loss of potential suitable habitat for marsh fritillary within the site.

1.7 DRB Community CLG Response

The area identified in Figure 3-1 that will be lost is close to the third larval web found in August 2023. Given the survey timing and weather conditions during the period May-August 2023, it is likely that this is breeding habitat, rather than potential breeding habitat.

The characterisation of the loss of habitat as 'slight in nature' is disputed. The Marsh Fritillary often breeds in discrete areas of a site containing suitable and potentially suitable habitat for reasons that are not evident. Removal of part of its habitat might remove the population. The statement that '*suitable habitat is abundant in the wider landscape*' does not appear to be supported by any of the surveys on behalf of the applicant and is not supported by the surveys undertaken on behalf of the DRB Community CLG. The habitat on the proposed development site contains large areas of unvegetated bare peat, with some raised bog remnants, scrub and woodland.

Most areas of the cutover bog contain vegetation characteristic of acid soils and is unsuitable for Devil's-bit Scabious. The farmland adjoining the bog is mostly intensively managed, with evidence of fertiliser and herbicide application resulting in improved grassland for livestock grazing and silage, containing no habitat for the Marsh fritillary.

The intention to 'promote further areas of suitable habitat within the development site' is described in 5.1. Avoidance of impacts to established habitat is preferable to initiatives to create new habitat which might be unsuitable. The sequencing is concerning. If the work destroys the habitat before any potential compensatory habitat develops, it is likely there will be no Marsh Fritillary population remaining to occupy any new habitat. The development site is extensive and design should be applied to avoid any loss of habitat.

Figure 1 Bare peat and vegetation on acid peat consisting notably of Heather, rushes, Downy Birch and Grey Willow.

Figure 2 Large areas of bare acid peat exists in the area, containing no habitat for the Marsh Fritillary.

4.1 Assessment of the Potential Impacts on marsh fritillary during construction

4.1 Disturbance/Direct Mortality

No breeding sites for marsh fritillary were identified within the footprint of the proposed development. However, larval webs were identified in close proximity to road infrastructure between Turbines 13 and 14. Therefore, there is potential for the inadvertent disturbance/direct mortality to this species arising from the construction phase of the proposed development via encroachment of machinery into identified breeding sites.

1.8 DRB Community CLG Response

The Marsh Fritillary Impact Assessment does not address under mitigation the changes to the habitat that will occur when the road is constructed and cabling for the proposed turbines 13 and 14 is installed. It is likely that the drainage applied in advance of installing cables will reduce soil moisture which will stress the shallow-rooted foodplant of the Marsh Fritillary butterfly during extended dry weather which will impact foodplant quality. This can result in the starvation of the larvae. The warmer, drier summers expected will increase the danger of population loss. It should be noted that the breeding habitat in much of the proposed development site is on elevated ground and additional drainage will increase the stress on the habitat.

Figure 3 Marsh Fritillary breeding habitat on elevated ground at N 63660 57209, Bracklin, Co. Westmeath.

5. MARSH FRITILLARY MANAGEMENT PLAN

5.2.1 Peatland Stabilisation and Pollinator Enhancement Measures

The construction phase of the proposed project will lead to the creation of bare peat areas and verges that will require re-vegetation. This will also ensure peat stabilisation and thus surface water protection. Natural colonisation is the best method in terms of stabilising bare peat surfaces, as species colonise

the are adapted to the specific environmental conditions. However, there will be opportunities to enhance these areas for pollinating insects as part of the facilitated bare peat revegetation. Re-vegetation will be facilitated through the establishment of semi-natural grassland along the infrastructure corridor using a wildflower pollinator-friendly seed mix and/or by using 'Green Hay' in combination with fertiliser and/or lime and a nursery crop. The species mix will comprise of a variety of plant species that will grow on peatland habitats found in the Ballivor Bog Group and contribute to an enhancement in biodiversity. It is proposed to use a seed mix comprising of red fescue (Festuca rubra) and creeping bent, (Agrostis stolonifera) that will allow for a rapid revegetation, while not resulting in a cores/dense sward preventing other wildflower species from establishing. The use of wildflower/native species that are also locally common will be incorporated into the seed mixes. The management of the habitat in this way will be beneficial for other wildlife, particularly pollinators (bees, butterflies and other invertebrates) by providing more wildflowers, food and space.

1.9 DRB Community CLG Response

The use of imported seed mixes to attract pollinators and beautify the area should be avoided. Natural colonisation should be used, taking precautions against alien invasive species that may appear. Any 'green hay' should be obtained from a native donor source as close to the bog as possible to ensure native provenance. In addition, the grassland along the railway which might be used as a source of 'green hay', and which has been mown should be cut at no lower than a 100mm setting except the areas immediately adjoining the tracks with cutting apart from this area restricted to October-January to avoid unnecessary damage to the high-quality grassland in that area.

CONCLUSION

Having reviewed:

- the applicant butterfly surveys, as contained in the original planning application;
- focused areas of the proposed development site by this author in May 2023;
- the responses from the applicant via MKO Consultants

It is my expert opinion that the applicant's impact assessment on Ireland's only legally protected insect (the Marsh Fritillary) is insufficient; the available evidence suggests habitat elimination, specifically in the areas of planned turbines 13 & 14 and the potential for drying out of the remaining habitat.

Construction associated with any aspect of the windfarm must be avoided to assure habitat protection and the development of habitat that will occur naturally if nothing is done. The areas where no breeding habitat will develop should be re-wet under the Peatlands Climate Action Scheme (PCAS). The enhanced rehabilitation scheme will deliver benefits across climate action by optimising carbon storage potential within the residual peat, reducing Green House Gas (GHG) emissions and accelerating the development of carbon sequestration by promoting the development of Sphagnum-rich vegetation (peat forming mosses), where possible. This will also enrich the State's natural capital, increase eco-system services, strengthen biodiversity, improve water quality and storage attenuation as well as enabling the amenity potential of the peatlands. The measures proposed will set sites on an accelerated trajectory towards the development of a variety of habitats including developing natural peatland, wetland and woodland. As a public authority within the meaning of the European Communities (Birds and Natural Habitats) Regulations 2011 to 2021 Bord na Móna must 'strive to avoid pollution or deterioration of habitats.' Bord na Móna has responsibilities under the Wildlife (Amendment) Act 2023 and the National Biodiversity Action Plan 2023–2030 prepared by the National Parks & Wildlife Service in which Bord na Móna is listed as a state body with a role in biodiversity conservation. Ireland has lost 30% of its semi natural grasslands in the past decade and more than half of the country's native plants are in decline (4th National Biodiversity Action Plan 2023–2030). Further loss and the risk of further loss described in the documentation submitted for the proposed project is unnecessary and unacceptable.

Jesmond Harding January 2024

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