FEHILY TIMONEY

DESIGNING AND DELIVERING
A SUSTAINABLE FUTURE

CLOONKETT WIND FARM RESPONSE TO SUBMISSIONS

Response to Submissions received by ACP, ACP Ref. PAX03.323783

Prepared for:

Cloonkett Green Energy Ltd.

CLOONKETT
Green Energy

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Abstract: Fehily Timoney and Company is pleased to submit this Submissions Response Report to An Coimisiún Pleanála (ACP) for planning application ACP Ref. No. PAX03.323783, as initially issued by An Coimisiún Pleanála on the 22nd December 2025 and subsequently updated on 28th January to Cloonkett Green Energy Ltd.

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1. INTRODUCTION

Fehily Timoney and Company (FT) have been commissioned by Cloonkett Green Energy Ltd (the Applicant) to provide responses to submissions and observations made in regard to a Strategic Infrastructure Development (SID) planning application made to An Coimisiún Pleanála (ACP Ref.: PAX03.323783.) Correspondence was first received from ACP dated 22nd December 2025 this correspondence was superseded by correspondence received on the 28th January 2026 stating an extended submission response date of the 27th February 2026. Please refer to Appendix 1 for ACP correspondence.

As presented on the ACP website, certain "Prescribed Bodies" and "Observers" have provided submissions on the Application for consent. In total, there were 47 observations from third Parties, and submissions from ten prescribed bodies:

- Clare County Council
- Department of Housing, Local Government & Heritage (DAU)
- TII Transport Infrastructure Ireland
- GSI - Geological Survey Ireland
- AirNav Ireland (ANI)
- Department of Defence (DoD)
- IAA - Irish Aviation Authority
- Shannon Airport/ Paul Hennessy
- Health Service Executive (HSE)
- Department of Transport (DoT)

This report responds to all submissions, which are grouped into the following sub-sections for the purposes of making a comprehensive response:

- Section 2: Response to Clare County Council Submission.
- Section 3: DoHLGH Submission (DAU).
- Section 4: Response to Submission from Other Prescribed Bodies (i.e. Aviation bodies and Dept. of Defence, HSE, TII, GSI, Dept of Transport)
- Section 5: Response to Third Party Observations (group format).

Section 5 of this report presents the Applicant's response to all the concerns raised by the 47 third party observations. Each observation has been carefully considered by the Applicant and common themes/ issues were collated together to provide a concise and cohesive response to all. This includes items/concerns raised in the group submissions from the *Kildysart, Cranny, Coolmeen/Clonsnaughta Action Group (Agent:* Michael J. Duffy) and the submission made by Pat Casey.

1.1 Statement of Authority

This Response has been prepared by Fehily Timoney and Company supported by APEM Woodrow, SLR, MacroWorks, Mike Trewby Ecology and AiBridges. Specialist input and their professional qualifications are identified in Table 1-1 below. APEM Woodrow, SLR, MacroWorks and Mike Trewby Ecology were all involved authors in the submitted EIAR, and are thereby familiar with the project from the outset and considered the appropriate experts to respond to concerns raised herein.

Table 1-1: **Contributors to the Response Submission**

	Author	Reviewer
Coordinators	Ida Wulff, BSc (Hons), Mplan (Fehily Timoney)	Jim Hughes, BA, EIA/SEA Dip, MSc (Fehily Timoney)
Habitats	Róisín NigFhloinn, BA Mod, MSc, MCIEEM (APEM)	Bláithín Ní Ainín, BSc. (Hons), MSc, PhD (APEM)
Ornithology	Mike Trewby, B.Sc, PGDip (APEM)	Mike Trewby, B.Sc, PGDip (APEM)
Aquatic Ecology	Bláithín Ní Ainín, BSc. (Hons), MSc, PhD (APEM)	Bláithín Ní Ainín, BSc. (Hons), MSc, PhD (APEM)
Hydrology and Water Quality	Craig Speed, BSc (Hons), PhD (SLR)	Aaron Clarke, BSc. (Hons), MSc, PGeo, EurGeol (Fehily Timoney)
Soils and Hydrogeology	Aaron Clarke, BSc. (Hons), MSc, PGeo, EurGeol (Fehily Timoney)	Tom Clayton, MEng. (Distinction) Civil Engineering (Fehily Timoney)
Landscape and Visual	Richard Barker, BA, PG Dip, MLA (Macroworks)	Jim Hughes, BA, EIA/SEA Dip, MSc (Fehily Timoney)
Traffic and Transportation	Trevor Byrne, BSc, MSc, MIEI (Fehily Timoney)	Jim Hughes, BA, EIA/SEA Dip, MSc (Fehily Timoney)
Aviation and Telecoms	Kevin Hayes, B.Eng, M.Eng (AiBridges)	Jim Hughes, BA, EIA/SEA Dip, MSc (Fehily Timoney)

2. PRESCRIBED BODY - CLARE COUNTY COUNCIL SUBMISSION

2.1 Introduction

The report submitted by Clare County Council was prepared in accordance with the requirements of Section 37E (4) of the Planning and Development Act, 2000, as amended. following their review of the application for consent made to An Coimisiún Pleanála.

Claire County Council notes the policy support at European, National and Local level for renewable energy development and wind energy development in particular. Furthermore, the Council recognises;

> *"the proposed development site is within the Shannon Estuary Landscape Character Area which is designated as 'acceptable in principle' for wind energy development" in the Clare Wind Energy Strategy".*

The Council also recognises that;

> *"the overall Sensitivity to wind farm development is considered medium to low, and the appropriate size of the wind farms (turbine numbers) is large to medium".*

Furthermore, the Council's report states;

> *" solely from a planning policy perspective. the Planning Authority recognises that the development as proposed would be in compliance with the designations as set out in the current County Development Plan and associated Wind Energy Strategy, noting also European, national and regional level policy objectives with respect to renewable energy."*

Therefore, the site in question has a favourable zoning objective and there is no objection in principle to the development with respect to the site's designation for renewable energy development.

This Section addresses the concerns raised by Clare County Council and identifies where in the Planning Application documents the issue(s) have already been addressed, and provides further clarity as required.

2.2 Submission Responses

2.2.1 Item no. 1: 5.1 Planning Policy - Height and Scale of Turbines

It should be noted that since the adoption of the WES there has been advancements in turbine technology in terms of their energy output and also in terms of their height and scale, whereby it is noted in this instance the tip height of the turbines is 150m. There is a concern that the existing Section 28 guidelines do not account for such heights and scale of turbines.

2.2.1.1 Response

It is accepted that the Wind Energy Development Guidelines (WEDG 2006) were prepared at a time when wind turbines were generally smaller than they are now. However, these Guidelines remain valid until a revised, updated version is issued by the Government of Ireland. The WEDG 2006 Guidelines acknowledged in a footnote on page 36 makes a clear acknowledgement that:

> *"The notion of what constitutes tall, medium and short turbines will change over time with technological advances and thus a shift in turbine height relative to capacity. In 2005, less than 60m to blade tip are considered short, 75-100m medium and over 100m tall."*

By default, almost all commercial wind turbines available today would be considered tall - and they are indisputably tall structures. However, the proposed are accurately represented in the photomontages that are used as the basis of the visual impact assessment and significant effects are not considered to arise. The proposed turbines are not considered to be over-scaled relative to the receiving landform and land use pattern or overbearing in relation to surrounding visual receptors.

It should also be that the Draft Updated 2019 WEDG remove the above footnote relating to specific turbine heights, but leaves the landscape and visual related guidance almost unchanged from the 2006 iteration. This is likely because the principals and considerations of the WEDG 2006 remain relevant, even in the context of evolving turbine technology. One of the only notable changes is that a setback distance of four times (4 X) tip height should be applied for visual amenity purposes from nearest residential receptors. This newly introduced measure ensures that residential amenity is maintained relative to the proposed turbine height. Even though the Draft Updated 2019 WEDG has not yet been adopted, the 4 X tip height setback provision has been applied for the proposed development.

Although 150m turbines are larger than the first-generation turbines that were constructed in Ireland as the wind energy industry emerged around two decades ago, the proposed turbines would only be classed as small to mid-range in height by today's standards. A number of wind energy applications have been submitted and granted in recent years with turbines at or in excess of 200m (see e.g. ACP Ref. 316212). These tend to be in broad peatland settings, but by the same rationale, the proposed 150m tall turbines do not appear over-scaled in their broad rural context. This is reflected in the findings of the LVIA chapter, which acknowledges several mid to high ranges effects, but none that are deemed significant. Furthermore, the LVIA (Section 15.4.6.2) includes a Route Screening Analysis (RSA which shows that within relatively short distances (less than 2km), it is considerably more likely that the proposed turbines will be fully screened by intervening terrain and vegetation than openly visible.

2.2.2 Item no. 2: 5.1 Planning Policy Ad-hoc Approach

Of particular concern is the ad hoc approach to windfarm developments and the resulting implications for the cumulative assessment of same in terms of visual and residential amenity, landscape impacts. Notwithstanding the designations in the Wind Energy Strategy, it is considered that the proposal would lead to a proliferation of turbines at this location.

2.2.2.1 Response

The contribution of the proposed development to cumulative landscape and visual effects is comprehensively assessed in Chapter 15, Section 15.8.3. This was supported by a cumulative Zone of Theoretical Visibility (ZTV) map (see Figure 15-15) as well as Wireframe images of the cumulative developments within EIAR Vol V, Photomontages. These resources include all existing, permitted and in-planning turbines within the study area, notwithstanding the fact that existing wind energy developments form part of the baseline context that is considered throughout the standalone assessment of the proposed development.

The cumulative Impact assessment acknowledges that in general the proposed wind farm will contribute to a greater intensity and increased dispersal of wind energy infrastructure in the Study Area, which extends to 20km. However, it concludes that whilst wind energy development is a familiar feature of the Study Area, most other wind energy developments are located away from the proposed wind farm site in Cloonkett, predominantly in the upland areas of the northern and wider western portions of the Study Area. Despite there being other existing wind farm developments within the Study Area, the Proposed Development is principally viewed distinctly separate to these, within its own visual envelope. Hence, in EIAR Chapter 15, the potential cumulative effects are assessed to be not significant.

As set out within the EIAR, the Proposed Development is sited within lands zoned for wind energy development as designated by Clare County Council, thereby making the principle of the development in line with existing designations. The visual cumulative impact assessment has been carried out in accordance with best practice guidance, as set out in section 15.8.3 of Chapter 15 – *Landscape and Visual Amenity* of the submitted EIAR, and based on professional judgement.

2.2.3 Item no. 3: 5.2 Visual Amenity

The subject site is located within a 'settled landscape' where Objective CDP 14.2 applies. Under this designation, developments are required to demonstrate the sites have been selected to avoid visually prominent locations, that layouts avail of existing topography and vegetation to reduce visibility from scenic routes. walking trails. water bodies public amenities and roads; and that design for buildings and structures reduce visual impact through careful choice of forms. finishes and colours.

Notwithstanding the landscape type being similar to that identified in the Departmental Guidelines as 'Mountain Moorland' or 'Transitional Marginal Landscapes' and the landscape character assessment of the Clare Wind Energy Strategy considering that the landscape character of the area as having capacity to accommodate small to large windfarms, the Council are concerned that the overall scale of the development would significantly alter the overall character and appearance of this landscape. In particular it is noted impacts on Gort Glass Lake, views along the L2072 and L6038. Also, a particular concern is raised with views from the Estuary i.e. the photomontage from Ballysteen pier.

2.2.3.1 Response

By way of response to Objective CDP 14.2, it is important to recognise that the objective was clearly written with rural buildings and structures in mind and was not intended to specifically relate to wind energy development. Instead, wind energy development is dealt with specifically in the Clare Wind Energy Strategy where the landscape containing the site and most of the central study area is classified as 'Acceptable in Principle' for wind energy development. This is despite the fact that wind turbines are tall structures, functionally best suited to prominent locations and where the form, finish and colour of the turbines is largely pre-determined. Therefore, we respectfully suggest Objective CDP 14.2 does not apply here as the site is designated for wind energy and wind turbines by their form are tall structure, best suited to prominent locations.

In response to Clare County Council concerns that the scale of the proposed development will significantly alter the overall character and appearance of the landscape, it is noted that Chapter 15 - Landscape and Visual Impact Assessment acknowledges that there will be some adverse effects on the receiving landscape and visual receptors, but such effects are not assessed to be significant. Furthermore, the effects are typical of those that arise for almost any commercial scale wind farm including those not contained in areas classified as being 'Acceptable in Principle' for wind energy development, as this one is. The receiving landscape is broad in scale and has a modified and productive rural character that also affords sufficient setbacks from nearest visual receptors that the proposed turbines will not appear overbearing. The scale of the development and height of turbines is well accommodated in the context of the prevailing landform and land use patterns, and this is evident in the photomontages and ultimately in the findings of the LVIA.

With respect to specific concerns relating to Gortglass Lough, views along the L2072 / L6038 and also from Ballysteen Pier, these receptors have all been assessed in accordance with relevant guidance and best practice within Chapter 15 (e.g. Section 15.2.8).

For the view representing Gortglass Lough (VP7, Table 15-2, Chapter 15 of the EIAR) it is acknowledged that mid to high order (magnitude) effects will occur due to the proximity of the proposed turbines, however, they are partly screened by mature intervening vegetation and they are ultimately seen as a background feature to the foreground Lough.

For the L2072 local road and the residences that occur along it to the north of the site, there are four representative viewpoints used in the visual impact assessment (VP6, VP10, VP11 and VP13). These afford slightly elevated views across the site throughout the southern quarters. The turbines are prominent but legible features that do not appear out of place in the receiving landscape and hence the significance of effect ranges from 'Moderate' in three instances (VP6, VP10 and VP13) to 'Substantial-moderate' for those immediately adjacent VP11. This level of localised effect is common for commercial scale wind farms and the effects are not deemed to be significant.

Likewise for the L6238 (assumed mis reference to L6038) which runs parallel to the south of the site, there are two representative viewpoints used in the visual impact assessment (VP15 and VP16). These are also close views of the proposed wind farm and consistent with the views from the local road immediately north of the site, the assessed visual effects range from Moderate at VP15 to Substantial-moderate at VP16. For similar reasons to the close proximity views from north of the site, the localised effects are deemed to be in the mid to high range but are not likely to be significant.

The view from Ballysteen Pier on the southern side of the Shannon Estuary is represented by VP20 in the visual impact assessment and is 12.6km from the nearest of the proposed turbines. Whilst visible, the proposed turbines are partially screened, small scale, background features of a view dominated by the foreground estuary and are assessed to have a 'Slight' (not significant) visual effect even taking account of the higher order sensitivity of this viewpoint location.

We respectfully suggest that all concerns raised by Clare County Council have been thoroughly assessed in Chapter 15 and the associated visual impact assessment appendices. It is acknowledged that in all cases, except for Ballysteen Pier, the receptors represent the highest order effects contained in the LVIA. However, in all cases the effects were assessed and found to be not significant. Also, such localised mid to high order visual effects are commonplace for almost all commercial wind energy developments in Ireland.

2.2.4 Item no. 4: 5.3 Residential Amenity

The Planning Authority notes the analysis in terms of shadow flicker and noise as carried out in the El AR where it is noted that there will be some exceedances of flicker and noise levels The mitigation measures for same are noted and it would appear subject to the implementation of same then any issues may be addressed. However, there is a concern in respect of reliance on mitigation measures to address impacts to local properties. It is considered that if the Commission are minded granting permission in this instance, then it is respectfully recommended that full details of the mitigation measures are clarified before permission is granted and how same will be implemented in order to address any concerns arising from local residents at the operational stage.

2.2.4.1 Response

Section 12.5 in Chapter 12 - *Shadow Flicker* of the submitted EIAR describes mitigation measures relating to shadow flicker associated with the Proposed Development. The primary mitigation measure is shadow flicker control modules, consisting of light sensors and specialised software, which will be installed on the turbines to ensure that mitigation is implemented to reduce shadow flicker occurrence at any receptor. The developer has also committed to curtailing turbines for all instances where shadow flicker effects may occur at residential dwellings within 10 rotor diameters of the turbines; this procedure is defined as "zero shadow flicker" mitigation. The "zero shadow flicker" mitigation strategy will reduce levels of shadow flicker to near zero hours a year. However, it should be noted that when the conditions for shut down due to shadow flicker are met, there is a short period of time before complete shutdown occurs as the turbines gradually slow down and stop turning.

Following mitigation, shadow flicker levels at all receptors within the study area will be reduced to negligible levels, and as such would not result in significant effects.

Therefore, the Proposed Development complies with the shadow flicker policy as set out in the Wind Energy Development Guidelines 2006 and provides additional protection by proposing a "zero shadow flicker" mitigation approach. The applicant is committed to implementing these mitigation measures.

Section 8.5 in Chapter 8 - *Noise and Vibration* of the submitted EIAR details mitigation measures relating to noise associated with the Proposed Development. Section 8.5.2 specifically details the mitigation measures during the operation phase of the Proposed Development. It shows the predicted operational noise levels are above the daytime noise limit of 40 dB at 6m/s at 16 locations. The noise criteria are exceeded at 6m/s by between 0.2 and 2.8 dB. Of these, 10 properties are south of the Proposed Development and exceed the criteria by between 0.2 dB and 1.2 dB. Six properties to the north exceed the daytime noise criteria at 6m/s by between1.6 and 2.8 dB. However, the noise predictions are for downwind conditions and it is unlikely that properties to the south of the development would be downwind for any period of time. During the night time period, the noise criteria is exceeded at one location, R189 by 0.4 dB at 7m/s and 0.2 dB at 8m/s. This location is to the north of the proposed windfarm.

The proposed wind turbines have sound optimised modes of operation which generate reduced noise levels. Table 8-22 in Chapter 8 - *Noise and Vibration* in the submitted EIAR sets out the sound optimised modes to be adopted to allow the daytime and night time noise limits to be met at all noise sensitive locations at 6m/s, 7m/s and 8m/s where the modelling predicted that the operational noise is marginally exceeded.

It is submitted that the mitigation measures proposed for both Shadow Flicker and Noise are fully described in the EIAR and are certain and known to work.

2.2.5 Item no. 5: 5.4 Traffic

The main Traffic implications that may arise in respect of this development are during the construction period. The EIAR outlines the extent of traffic movements associated with the development whereby there would be approximately 3696 traffic movements per month at the peak construction period . The Planning Authority has serious concerns in respect of the Impact of this development on the public road network and in particular the local roads serving the site.

The haul route for the turbines is from M18. onto the N68 and along the local roads to the site (L6180 and L2072). The main implications for this development arise along the local roads serving the site. At present these roads are poor in terms of capacity and width and the subject development will inevitably give rise to impacts on the structure of the road. In addition, there is a concern that any road closures will have a knock-on impact on the wider road network by reason of diversions and use of other roads which may not have capacity for the level of traffic generated. Furthermore, the EIAR also indicates that the route along the L2072 to the northeast towards Ballynacally will also be used for construction and operational access, Noting same, and noting also that the source (quarry) of materials is not fully known at this stage, the Planning Authority has serious reservations in respect of the wider impacts of this development on the area road network.

In the event of planning permission being granted Clare County Council recommend a number of conditions relating to Roads and Traffic concerning the following;

- Road Opening Licences,
- Road Reinstatement
- Road Closures
- Bridges/Culverts/Pipelines
- Turbine Deliveries
- Bonds

2.2.5.1 Response

The text above reflects the first part of the submission from Clare County Council. The Applicant notes the remainder of the submission in relation to Traffic includes a list of recommendations for Planning Conditions should ACP grant Planning to the proposed development.

It is noted that the Council state that a Road Opening licence will be required for the overall Grid Connection. It is important to clarify that a key design feature of this project is that connection to the national grid is on-site therefore not requiring any cabling on the public roads. This feature was discussed in detail with Clare County Council Roads Department during a dedicated consultation meeting on the 29th of April 2025. The purpose of the consultation meeting was to deliver a presentation of the proposed development and potential impacts on the transportation network to the Area Engineer for comment and feedback. Roads department engineers were also present on a subsequent pre-planning meeting on 25th June 2025 between Clare County Council, Cloonkett Green Energy Ltd., and Fehily Timoney and Company. The Clare County Council Engineer broadly welcomed the fact that the Proposed Development did not involve an external grid connection cable route and sourced much of the construction aggregate from the proposed borrow pits on site to reduce the amount of HGV traffic generated by the development. It was also noted by Clare County Council engineer that Crossmore Wind Farm which is currently under construction used a similar turbine delivery route to that proposed by Cloonkett Wind Farm.

Chapter 13 of the EIAR comprehensively assesses the construction impacts of the project on the local road network and the broader road network with regard to the delivery of larger turbine components. The assessment concludes that the Proposed Development is likely to result in a slight to moderate short-term negative impact on the existing road network during the construction phase. A detailed set of mitigation measures are included in Section 13.7 of the EIAR.

A TMP is contained in the Construction Environmental Management Plan (CEMP) is included in Appendix 2.2 of Vol lll of this EIAR. In the event planning permission is granted for the proposed development, the final TMP will address the requirements of any relevant planning conditions, including any additional mitigation measures which are conditioned.

The Applicant notes and accepts Clare County Council's recommendations to the Commission as regards Planning Conditions, including pre-condition surveys and post works surveys of the local public roads near the proposed development. The TMP which is included as Appendix 2.2. of Vol III of the EIAR will incorporate the above conditions as required.

According to the council's observation, the EIAR outlines the extent of traffic movements associated with the development whereby there would be approximately 3696 traffic movements per month at the peak construction period. Based on the outline construction programme presented in the EIAR, this figure occurs during months 4 – 7 of the overall 24 month programme. Of this, 1,840 relates to HGV movements with the remainder representing LGV's. As described in the EIAR, calculations of HGV movements associated with the construction of the Proposed Development indicate an average daily increase of 46 HGV trips per day and increases to a peak of 71 HGV trips per day during the peak month which occurs in months 5, 6, 7 and 8 of the programme for HGV traffic. This is significantly less than what would be typically expected for the construction of this type of development due to the volume of site won aggregate from the on site borrow pits and peat and spoil management plan developed as part of the design of this site.

The traffic and transportation impact assessment comprehensively examined the local road network in terms of capacity, width, structural condition and general suitability to facilitate the construction of the Proposed Development. The assessment included a turbine delivery route assessment with swept path analysis, a passing opportunities report and identified optimal haul routes to be used during the construction stage with consideration for the above potential impacts. A detailed traffic management plan has been development and submitted with the application which sets out the proposed measures by which the local road network will be managed and protected during the construction stage.

The Council's observation identifies potential road closures and associated diversions as a concern. Road closures are not required to facilitate the construction of the Proposed Development with the exception of a single temporary closure along a lightly trafficked tertiary local road which divides the Site and will be crossed by interconnector cabling. As described in the Section 1.1.7 of the TMP any road closure required to facilitate this crossing is estimated to be less than a day's work. The consent of Clare County Council will be required and the necessary road diversions together with the appropriate signage will be put in place. As there is a good network of local roads, it is anticipated that there are a number of options available for diverting traffic which will allow flexibility during this process of construction and maintain local access at all times during this element of the works. It is proposed to maintain local access at all times during this element of the works. It is proposed that all access points (domestic, business, farm) are considered when finalising the temporary road closures and diversions. Diversion signage will also be included.

Regarding quarry sourced materials for the construction stage, the EIAR sets out local quarries and haul routes to be used for the construction stage. These were presented to the Council's roads department engineers during a consultation meeting in April 2025. Feedback from this consultation informed the final identification of haul routes included in the final design.

In the event of planning permission being granted, the Applicant welcomes conditions relating to road opening licences, road reinstatement, road closures, bridges/culverts/pipelines, turbine deliveries and bonds.

2.2.6 Item no. 6: 5.5 Natural Heritage - 5.5.1 Freshwater Pearl Mussel

The results of the field surveys to inform the assessment of the Windfarm. clearly demonstrate that the Cloon catchment is not currently achieving favourable conservation status. It is therefore difficult to determine how a development which proposes the clearance and removal of soil and peat substrate together with rock for access roads and hardstand areas construction of a new bridge crossing over the Carrowreagh East Stream will allow for the population to be "restored" to favourable Conservation Status in the future as is required by the Habitats Directive. While it is not for the Windfarm project to provide for this restoration the status quo of the catchment in terms of drainage and intensity of impacts which is currently taking place does not allow for this restoration to be achieved therefore by extension a development of this scale directly within the pearl mussel catchment which has such sensitivities in terms of peat substrate could only serve to compound the issues.

2.2.6.1 Response

The evidence does not support this statement, on the basis of the EIAR, NIS, CEMP, SWMP and other supporting technical appendices.

Clare County Council has acknowledged the receiving environment is not in good ecological condition. They noted "*…the results of the field surveys to inform the assessment of the windfarm, clearly demonstrate that the Cloon catchment is not currently achieving favourable conservation status."* The EIAR reports that samples taken from both tributaries of the Cloon River within the Proposed Development boundary, were classified as having 'moderate' to 'poor' ecological status[1], with documented sedimentation issues. This is described in EIAR Vol. II, Chapter 9. Biodiversity, Section 9.3.6 (p. 83-86), EIAR Vol. III, Appendix 9.4, Aquatics Report, Section 4.2 (p21) and EIAR Vol. VI, the Natura Impact Statement (NIS), Section 4.4, p. 44-45 and Chapter 11. Hydrology.

A constraints-led avoidance approach was used to design the Proposed Development. It avoids deep peat and hydrologically-sensitive areas, employs a multi-stage Sustainable Drainage System (SuDS) treatment system, replaces an existing ford with a clear-span bridge (removing chronic silt risk), incorporates a comprehensive suite of hydrological and water-quality protection measures that prevent deterioration, and support future restoration of Freshwater Pearl Mussel (FPM) habitat. This is governed by a Construction Environmental Management Plan (CEMP; EIAR, Vol. III, Appendix 2.1), Surface Water Management Plan (SWMP; EIAR Vol. III, Appendix 11.1), Water Framework Directive (WFD) Assessment Report (EIAR Vol. III, Appendix 11.2, and Aquatic Habitats Management and Enhancement Plan (AHMEP; EIAR Vol. III, Appendix 9.6, Table 6.1 p. 46-52).

As part of the EIAR Chapter 10, Soils, Geology and Hydrogeology, a robust peat stability assessment (to include findings from both field-based surveys and intrusive ground investigations) was undertaken for the receiving environment (see Chapter 10, Section 10.4.12 and Appendix 10.1 - Peat Stability and Geotechnical Assessment Report). The results of this assessment, which include the calculation of Factor of Safety (FoS) at 268 no. peat probe locations, indicate a "Negligible and Insignificant" risk of peat landslide for the Site (including the proposed bridge crossing). Note that peat depths at the proposed bridge crossing are mapped as being <0.5m deep (Appendix 10.1 Drawing No. P22-125-0600-0101) and returned a FoS of >1.3 (i.e. stable). During the construction phase, best practice mitigation to prevent slope failure has been included (see Chapter 10, Section 10.7.2.6 and Appendix 2.1 - CEMP). Post mitigation effect on the underlying geological and hydrogeological receptors is considered to be "Negligible and Insignificant".

[1] Note: Q-value were calculated as part of the EIAR supporting the Planning Application for indicative purposes only and not as an assessment of the official status of a water body.

EIAR Chapter 10, Section 10.4.7.2 indicates that groundwater is expected to flow towards the west-southwest. This is also confirmed by groundwater monitoring data presented in Appendix 10.2 (Vol III). Lateral groundwater flow is anticipated to be significantly impeded by the geological composition, structure and low permeability of the underlying bedrock deposits. Although the Lower River Shannon SAC is down gradient of the Site, at a distance of approximately 1.6km to the east, the nature and composition of the bedrock geology indicates that there is limited connectivity between the Site and this SAC. Therefore, any effects caused by the project are unlikely and imperceptible.

Chapter 10, Section 10.4.11.4 (Table 10-20) and Appendix 10.2 (Vol III) provides details of groundwater monitoring within the peat profile that was carried out by the Applicant. This data, gathered from 18 peat piezometers (see Figure 3.1, Appendix 10.2, Vol III) over a 13-month period (December 2023 to December 2024), indicates shallow groundwater levels with minimal seasonal fluctuation. See Appendix 10.2 (Vol III) Section 3.4, Figures 3-2 to 3-6 for a detailed breakdown of this assessment. As such, due to the peat's low hydraulic responsiveness, construction-related groundwater drawdown is unlikely to significantly affect perched/shallow groundwater levels within the Site's peatland areas.

EIAR Chapter 10, Section 10.7.2.4, addresses control of sediment laden runoff during the construction phase. This includes maintaining existing drainage outside of the existing Site; use of additional Site drainage to include settlement ponds; implementation of silt fencing; and water quality monitoring. Details of the proposed Surface Water Management System and mitigation measures to include details of spill protection measures and emergency spill response procedures are also outlined in the CEMP (Appendix 2.1 of Vol III). Drainage details are outlined in Dwg. 05997-DR-209 of the submitted EIAR; Dwg. P22-125-0501-0003 outlines silt trap details in drainage ditch.

A construction methodology for the clear span bridge crossing over the Carrowreagh East Stream is presented in the CEMP, Appendix 2.1, Vol III (Section 3.4.8) and states that all excavations shall be set back 4m from the banks of the stream. All earthworks adjacent to the crossing locations will be carried out to prevent soil entering the watercourse and will be in accordance with the Peat and Spoil Management Plan located in Appendix 10.3, Vol III of the EIAR.

In addition, enhancement measures and related monitoring of their efficacy are described in EIAR Vol. III, Appendix 9. Table 1 in EIAR Vol. III, Appendix 9.5 (pp.12-14) provides an overview of the areas designated for the Biodiversity Management and Enhancement Plan (BMEP) within the proposed development site which includes extensive new fencing along watercourses to exclude livestock (approx. 7.31Km) and underplanting of riparian buffers (approx. 4Ha) to prevent soil erosion. These measures were designed, in addition to the proposed mitigation measures, to further support FPM populations by having positive effects on the water quality and hydrology both within the site, and downstream.

The following sub-sections provide a summary of the mitigation measures to protect and manage the hydrological flow as described in the EIAR for the proposed development.

Mitigation summary - Clearance and removal of soil and peat substrate

Key mitigation proposals are set out in:

- Vol. II, EIAR Chapter 9 (Biodiversity), Section 9.1.2, p.3 and Section 9.7, p. 161 -170, 176-177, 181-183;
- Vol. III, Appendix 2.1 (CEMP), Section 3.2, p. 6 and Section 3.4.9, p. 20; Section 4.3, p.27–30; Section 6.11, p.68–69);
- Vol. III, Appendix 9.1 (Vegetation & Peat Assessment), p. 8–22;
- Vol. III, Appendix 9.6 (Aquatic Habitats Management and Enhancement Plan (AHMEP), Sections 6.3 p43-45; 6.6 p. 53-55; 6.7 p. 55-56;
- Vol. III, Appendix 10.3 (Peat & Spoil Management Plan), p. 8–22;
- Vol. III Appendix 11.1 (SWMP), Section 2.1.6, p. 19–20 and Section 2.1.7, p. 20–21;
- Vol. VI, NIS, Section 2.5 p. 21-22 and Section 5.3, p. 70-80 and Table 7, 80-84).

As a result of the robust, constraints led iterative design process that was informed by field surveys and site investigation works, underpinned by relevant Best Practice and/or relevant industry Guidance, and expert opinion, the proposed development avoids deep peat, potential quaking bog, hydrologically-sensitive areas and high-value bog habitat. Additionally, the total number of wind turbines was reduced from 17 to 14 (reducing the need for excavation and preventing alterations to natural hydrological pathways) to eliminate or minimise potential ecological risk within or downstream of the site. Furthermore, feedback from a range of key stakeholders and statutory consultees (see EIAR Vol. II Chapter 11, Table 11-4) was used to inform the EIAR and final site design.

A series of field assessments were undertaken to "ground-truth" the baseline/ existing hydrological environment and inform the drainage design for the proposed development. The Applicant established a cross-disciplinary Hydrological Working Group which was chaired by an independent, competent expert (Michael Gill) to ensure there was a thorough assessment and understanding of the hydrological regime within the study area and downstream of the proposed development (i.e. including the wind farm, TDR and GCR). See EIAR Vol. II, Chapter 11 Hydrology & Water Quality, Section 11.2.3 for more details.

EIAR Vol. II, Chapter 11, Section 11.2 sets out the methodology applied; relevant legislation and Guidance that underpinned the impact assessment (Section 11.2.1) and the desk studies carried out to identify sensitive receptors, the potential hydrological and cumulative effects from the proposed development.

A description of the existing hydrological environment is presented in Chapter 11, Section 11.3, including the existing drainage within the Site (see Section 11.3.10). Watercourse crossings are described in Section 11.3.12. In summary, the clear span bridge will be designed in compliance with the Office of Public Works (OPW) Flood Risk Management Guidelines (2009) to ensure the level of the bridge will provide sufficient freeboard to allow for the 1 in 100 year (+20 %) fluvial flood level. The supports for the proposed clear span bridge crossing shall be set back 4m from the riverbank. Other watercourse crossings comprise bottomless box culverts and pipe culverts where the proposed wind farm access tracks cross minor streams and land drains. With suitably sized piped culvert and box culvert crossings, and a suitably designed bridge, there will be no effect on flows within watercourses, and the risk of flooding will not be increased as a result of the Proposed Development. See EIAR Vol. III, See Appendix 11.1 Surface Water Management Plan (SWMP) for further details.

As described in the EIAR (e.g. Vol. II Chapter 9. Biodiversity; Vol. III Appendix 2.1 CEMP, Appendix 9. Biodiversity). The proposed measures, supervised by the on-site Ecological Clerk of Works or Project Ecologist (as appropriate) include:

- Floating tracks are proposed where peat depth/conditions require (CEMP Appendix 2.1, Section 3.4.6, pp. 12–16).
- Peat excavation will be minimised and subject to strict controls requiring on-site peat retention, strict deposition height limits, acrotelm reuse for surface restoration and full restoration of disturbed areas, strict stability protocols including slope stability limits and use of long-reach excavators and bog mats where required, and the commitment that peat will not be excavated where risks cannot be mitigated (The Peat & Spoil Management Plan, p. 8–22; NIS, Section 2.5 p. 21-22).
- All surface water from construction areas is treated through a multi-stage SuDS system including swales, check-dams, silt traps, settlement ponds, constructed wetlands, interceptor drains, cross-drains diffuse discharge), providing multi-stage filtration and nutrient stripping before runoff enters tributaries, detailed in Appendix 11.1 SWMP (Sections 2.1–2.4, p. 5–21) and in the NIS (Section 5.3, p. 78) and all will be installed before earthworks begin. The Site's proposed drainage layout is presented in drawings P22-125-0500-0001 to P22-125-0500-0023. Drainage design details are presented in drawings P22-125-0501-0001 to P22-125-0501-0008.
- Suspension of vegetation stripping during high-rainfall conditions (CEMP Section 3.2, p.6).
- Robust peat and spoil management secured through the borrow-pit development methodology (non-blasting extraction, on-site crushing, structured peat reinstatement; CEMP Appendix 2.1, Section 3.4.9, p. 20).
- Stockpiles to be set back more than 100 m from watercourses and to be covered within 200m of a watercourse, with a compacted side to prevent silt run off during heavy rain or airborne dust during dry periods.
- Protection of natural hydrological pathways through further mapping of existing drains (EIAR Chapter 11, Section 11.2.1.1, p.115).
- Comprehensive suite of construction-stage water-quality protection mitigation measures, based on best practice guidelines[2] for the protection of hydrological receptors from accidental releases of pollutants and sediments for all Proposed Development phases (NIS, Section 5.3 (p72-76), EIAR, Section 9.7.2.1, p164-168).

Comprehensive monitoring and adaptive management programme prior to, during and post-construction/operational phases (EIAR, Section 9.7.2.1 p. 168; 9.7.3.5 p. 182; 9.10.9.5, p. 208; SWMP, Section 4.5, p. 39; AHMEP Sections 6.3 p43-45; 6.6 p. 53-55; 6.7 p. 55-56; NIS, Section 5.3, p. 76-79). This includes daily inspection and adaptive management of all drainage controls by the contractor's Drainage Engineer (SWMP, Section 4.1, p. 29); comprehensive water-quality monitoring including analysing targeted parameters for FPM (AHMEP, Table 2.1); macroinvertebrate monitoring (Q-Value, LIFE and PSI, detecting ecological condition, flow and sediment stress respectively), with exceedances triggering investigation and corrective action (SWMP Section 4.5, p. 39–40), FPM habitat assessments (substrate particle size, algal, bryophyte, macrophyte cover and fine sediment), repeat Stage 1 and Stage 2 FPM population surveys post-construction (p. 78–80) and continuous turbidity monitoring and alarmed interceptors upstream and downstream during construction.

[2] All the guidance documents are listed in the NIS (Vol VI, Section 5.3, p72) and in the SWMP (Vol III, Appendix 11.1, Section 11.5.1, p14).

Mitigation summary - Rock for access tracks and hardstand areas

Key mitigation proposals are set out in:

- Vol. II, EIAR Chapter 9 (Biodiversity), Section 9.1.2, p.3 and Section 9.7, p. 161 -170, 176-177, 181-183;
- Vol. III, CEMP, Appendix 2.1, Sections 3.4.6–3.4.9;
- Vol. III, SWMP Appendix 11.1, Section 2, p. 5–21;
- Vol. VI, NIS, Section 5.3, p. 70-80 and Table 7, p. 80-84.

These sources list a variety of mitigation measures relating to hydrology (which are also represented in Section 11.5.1 of Chapter 11 of the EIAR), including:

- Implementation of a 50m watercourse buffer across the proposed development to ensure avoidance of any direct interaction of turbines, substation infrastructure, crane pads, hardstand areas and access tracks with watercourses (all infrastructure >50 m from watercourses; EIAR, Chapter 9, Section 9.7.1, p. 161-164 and p. 167; NIS, Section 5.3, p. 70-71 and 74; CEMP, Section 3.4.8, p.16, SWMP, Section 2.1, p.6 and Section 3, p. 24).
- Existing drainage features were mapped and used to guide infrastructure placement, documented in EIAR Chapter 11 (Hydrology), Section 11.2.2 to 11.2.4, p9-11). In addition, detailed topographic assessments have been undertaken using LIDAR (see EIAR, Appendix 9.7 LiDAR & Eco-Hydrology Analysis Report) and considered based on the peat and related hydrology (see EIAR Appendix 9.8 Note on Indirect Hydrological Effects of Development on Peat).
- Floating road design or geotextile foundations to avoid peat compression and drainage alteration.
- Clean, chemically suitable stone sources; no blasting.
- Multi-stage SuDS treatment for all surface water from construction areas, including swales, silt traps, settlement ponds, check-dams, constructed wetlands, interceptor drains, cross-drains.
- All SuDS installed before earthworks begin; no direct discharges permitted (SWMP Section 2.1, p.6).
- Comprehensive suite of construction-stage water-quality protection mitigation measures, based on best practice guidelines[3] as outlined under the previous heading.
- Comprehensive monitoring and adaptive management programme as outlined under the previous heading.

Collectively, these embedded measures are designed so that the Proposed Development does not introduce new watercourse interactions, avoids hydrological connectivity during construction, and prevents peat and soil substrate mobilisation to downstream habitats.

[3] All the guidance documents are listed in the NIS (Vol VI, Section 5.3, p72) and in the SWMP (Vol III, Appendix 11.1, Section 11.5.1, p14).

Mitigation Summary - Construction of a new clear-span bridge

Key mitigation proposals are set out in:

- Vol. II, EIAR Chapter 9 (Biodiversity), Section 9.1.2, p.3 and Section 9.7, p. 161 -183;
- Vol. III, CEMP, Appendix 2.1, Section 3.4.8, p. 15–17;
- Vol. III, SWMP, Appendix 11.1, Section 3.1, p. 24;
- Vol. III, AHMEP, Appendix 9.6;
- Vol. VI, NIS, Section 5.3, p. 70-84.

Mitigation includes:

- Replacement of the existing fords, which are a chronic source of fine sediment. One ford crosses the Carrowreagh East Stream, and shall be upgraded with a clear-span bridge, removing instream vehicle contact (SWMP, Section 3.1, p. 24).The second ford crosses an existing ditch, which is not a WFD waterbody, shall be replaced with a culvert (Chapter 10,Table 3-3), Vol II).
- Avoidance of instream works (owing to the clear-span bridge design).
- Bridge abutments set back 4 m from the watercourse (Carrowreagh East).
- Installation of drainage controls prior to works; at the clear span bridge by implementing dry-working via temporary cofferdam-style protection (Section 11.5.2.4, Chapter 11, Vol II), .
- Works carried out according to best practice[4], with full adherence to Guidance on Assessment and Construction Management in *Margaritifera* Catchments in Ireland (Atkinson et al., 2024).
- Works undertaken within Inland Fisheries Ireland (IFI) permitted July–September working window for in-stream works as an added precaution to avoid vulnerable spawning salmonids/lamprey that may be present downstream.
- Mandatory biosecurity measures, as described in EIAR Vol. II, Chapter 9, Section 9.7 p. 168; 176; Vol. III Appendix 2.1 CEMP, Section 3.4.8; Vol. VI, NIS, Section 5.1, p. 60 .
- Comprehensive suite of construction-stage water-quality protection mitigation measures, based on best practice guidelines[5] as outlined under the first heading in the response.
- Comprehensive monitoring and adaptive management programme as outlined above and described in the EIAR Vol. II, Chapter 9, EIAR, Section 9.7.2.1 p. 168; 9.7.3.5 p. 182; 9.10.9.5, p. 208; Vol. III, Appendix 11.1 SWMP, Section 4.5, p. 39 and Appendix 9.6, AHMEP Sections 6.3 p43-45; 6.6 p. 53-55; 6.7 p. 55-56; Vol. VI, NIS, Section 5.3, p. 76-79)..

[4] Best practice guidelines:
IFI (2016) Guidelines on Protection of Fisheries During Construction Works in and Adjacent to Waters. Inland Fisheries Dublin.
TII (2008) Guidelines for the Crossing of Watercourses During the Construction of Road Schemes. Transport Infrastructure Ireland.
Atkinson S, Magee M, Moorkens EA & Heavey M (2024) Guidance on assessment and construction management in *Margaritifera* Catchments in Ireland. https://e-mussels.eu/europe/conservation-guidelines

[5] All the guidance documents are listed in the NIS (Vol VI, Section 5.3, p72) and in the SWMP (Vol III, Appendix 11.1, Section 11.5.1, p14).

The submission from Clare County Council continues:

> *"While it is not for the Windfarm project to provide for this restoration the status quo of the catchment in terms of drainage and intensity of impacts which is currently taking place does not allow for this restoration to be achieved therefore by extension a development of this scale directly within the pearl mussel catchment which has such sensitivities in terms of peat substrate could only serve to compound the issues".*

While it is acknowledged that the catchment is currently not in good ecological condition, nor the FPM at favourable Conservation Status, the evidence does not support the statement that the Proposed Development would compound the issues, on the basis of the EIAR, NIS, CEMP, SWMP and other supporting technical appendices. As described in detail above, the proposed infrastructure avoids hydrologically sensitive areas, deep peat and priority habitats. Moreover, a robust multi-layer management framework is in place: CEMP, SWMP, WFD Assessment, AHMEP and NIS, which collectively mean that there would be no in-stream works, no hydrological connectivity to construction areas, by virtue of avoidance and mitigation measures, no watercourse deterioration, and no adverse effects on FPM site integrity. The framework implements best-practice peat management including a multi-stage SuDS treatment system delivering cleaner runoff than the current baseline, which when combined with the removal of the ford, represent a net improvement over baseline conditions. A rigorous adaptive management and monitoring programme would be in place, including daily inspections and continuous turbidity monitoring, as well as biological quality and FPM habitat and population monitoring, fisheries-compliant working windows, strict pollution-prevention protocols, controlled de-watering, and daily drainage inspections (SWMP Section 4.5, pp. 39–40) prevent sediment mobilisation. In addition to the mitigation measures outlined in the previous sections, the enhancement measures support restoration rather than hinder it. The Biodiversity Management & Enhancement Plan (BMEP) and Aquatic Habitat Management & Enhancement Plan (AHMEP) would deliver substantive ecological gains, as documented in:

- Vol. II, EIAR, Chapter 9, Section 9.10, p. 197-204, 208;
- Vol. III, BMEP, Appendix 9.5, Section 2.4.2, p.22-28; Section 4.4.2, p40-44;
- Vol. III, AHMEP, Appendix 9.6, Section 7.2, p.60; Section 7.3, p.61-62;
- Vol., VI, NIS, Section 2.2, p. 12 and Section 5.3, p. 84.

Key enhancements include:

- 72.38 ha of peatland restoration and targeted drain management (drain blocking, re-wetting, cessation of burning/turbary, peat dams, attenuation structures, sediment traps, and LiDAR-based prioritisation), raising water tables, stabilising exposed peat, preventing erosion and restoring bogland hydrology (increasing water storage, storing water during wet periods and maintain a stable baseflow through slow release during dry periods as well as reducing flashy spates that scour gravels and can reduce interstitial permeability and oxygenation, degrading habitats, and can cause washout, displacement or mortality of juvenile FPM and scour spawning gravels reducing recruitment of host fish).
- 7.31 km of riparian fencing, livestock exclusion and buffer restoration, preventing bank poaching, trampling and direct faecal inputs—major point sources of sediment and nutrients. Recovered riparian vegetation strengthens banks, reduces fine sediment delivery, and improves channel stability.

- Native riparian planting and invasive species control, stabilising banks, slowing overland flow and intercepting sediment and nutrient-rich run-off before it enters the streams, enhancing shading to reduce temperatures and algal growth. Cooler, stable conditions improve dissolved oxygen levels for FPM and improve fish host (salmonid) recruitment.
- Hydrological attenuation via targeted drain management and prioritised interventions. Further details of proposed drainage in Dwg. 05997-DR-209 of the submitted EIAR.

In contrast, the 'do-nothing' scenario, outlined in Vol. II, EIAR, Chapter 9, Section 9.5, p. 105-106, will result in the likely further decline of the River Cloon FPM population, and of the ecological condition of the tributaries draining the Proposed Development from their current moderate and poor ecological condition, with macrophyte coverage and/or filamentous algae coverage excessive, little suitable habitat for salmonids and none of the measure FPM ecological quality objectives achieved on either tributary as this point in time. The current habitat impacts such as changing discharge owing to active turbary, ongoing land use giving rise to sediment and nutrient loading in the catchment, will continue to contribute to the populations ongoing decline, and possible eventual extinction, without active management.

The measures outlined above would directly address the dominant pressures on FPM: fine sediment, nutrients, hydrological flashiness and riparian degradation. They will improve water quality and stability in the tributaries entering the Cloon River. The EIAR, NIS and associated management plans therefore demonstrate that the Proposed Development would avoid the most sensitive peatland and hydrological areas, and the design includes comprehensive, multi-stage mitigation that prevents peat disturbance, sediment mobilisation and hydrological alteration, the new bridge and SuDS measures provide net improvements over existing conditions and the enhancement measures deliver meaningful ecological gains that support, rather than impede, future restoration of FPM to Favourable Conservation Status.

2.2.7 Item no. 7: 5.5 Natural Heritage - 5.5.2 Avi Fauna (Bird Habitat & Hen Harrier)

The submission from Clare County Council states:

The bog habitats which are located within the area in which the turbines are proposed to be located also play a key role as habitat for many bird species. Table 9.18 of the ElAR identifies the importance of these pNHAs and their lakes for the presence of the species Arctic Char with Gortglass Lough recognised as an Area of Scientific Interest for its presence. The assessment considers that there is no Source-Pathway Receptor connectivity identified hydrological or otherwise, and therefore the sites and their features are not considered further.

It is noted that some of the turbines are to be located at the southern side of the bog meaning bird species have to fly past the turbines to reach the bog from the lakes as the lakes provide important foraging and resting places for a diverse range of bird species recorded on site. The surveys which have informed the El AR recorded 9 red listed bird species and 23 amber listed with 8 of these Annex 1 species.

Both male and female Hen harriers were recorded a combined 65 times throughout the 3 years of survey effort, the results conclude that as a Hen harrier nest was not found the area is suitable for development. However Hen Harrier can fail to successfully breed on any given year for a number of reasons. Given the presence of the species across the county and in particular to the north of this site where a number of wind farms have been developed over the past number of years there is increasing pressure on this species in terms of their available habitat for foraging. breeding and commuting given the proliferation of Wind farms in West Clare.

2.2.7.1 Response:

Hen harrier impact assessment

Hen harrier impact assessment

In terms of the ornithological impact assessment for the proposed development, Clare County Council's submission refers to hen harriers' failure to breed in a given year. The Applicant notes the submission from the DAU raised a similar point and to avoid duplication of information in this section this query is addressed under the Applicant's response to the DAU's submission.

The Applicant would like to provide Clare County Council and DAU surety with regards to the conclusion of the EIAR and for clarity scientific evidence presented below (Points 1 to Point 7) to support the conclusion that hen harrier are highly unlikely to have bred in the area within and surrounding the proposed development. Information on wintering hen harrier is also summarised below (Point 6 & Point 7). As the ornithological impact assessment presented in the EIAR assumes a level of professional ornithological expertise in interpreting the evidence presented, further explanation is provided in the following points to ensure clarity. At the end of each point or series of related points, an evidence-based conclusion is provided in bold text.

Point 1

As summarised in the EIAR Vol. II, Chapter 9. Biodiversity, Section 9.2.3.2 Avian Ecology - Field Survey Methodologies, Section 9.2.3.2, and with full details provided in EIAR, Vol. III: Appendix 9.3: Avian Ecology & CRM Report, Section 4: Methodology, Section 4.1: VP watches and Appendix IV:

The level of survey effort covering the 500 m turbine buffer, i.e. 557 hours VP watches over three breeding seasons (2022 = 182 hrs spread over 21 days, 2023 = 180 hrs spread over 6 days, 2024 = 195 hrs spread over 36 days), as well as the range of other site visits undertaken, means that it can be concluded, without any doubt, that hen harrier did not breed within the 500 m turbine buffer over the three breeding seasons studied. Furthermore, the viewsheds for the VPs extend out 2 km and even beyond this in some instances; therefore, coverage for a relatively conspicuous breeding species, like hen harrier, actually encompasses a substantial area beyond the 500 m, as shown in the EIAR, Vol. III: Appendix 9.3 (Avian Ecology & CRM) - see Figure III.1 in Appendix III (Viewshed Analysis).

Taking a precautionary approach, the ecology team for the Applicant objectively concludes, beyond scientific doubt, that over the 3-year baseline study hen harriers did not attempt to breed within 1 km of the proposed development.

Point 2

Survey effort covering the 2 km turbine for breeding birds of prey (BoP) is detailed in the EIAR: Vol. III: Appendix 9.3 - Avian Ecology & CRM Report - see Appendix VI. Appendix X: Table X.1 provides some additional dates for hen harrier nest search surveys conducted in 2023. In summary, the survey effort employed for wider area breeding BoP surveys over each breeding season was as follows:

- Breeding season 2021:
  - BoP surveys conducted on 2 dates, 28-Apr-2021 & 17-Jul-2021, amounting to **17** hours
- Breeding season 2022:
  - BoP surveys conducted on 2 dates, 26-Apr-2022 & 22-Jun-2022, amounting to **10** hours
- Breeding season 2023:
  - BoP surveys conducted on 11 dates, b/t 06-Apr-2023 & 07-Jul-2023, amounting to **67** hours
- Breeding season 2024:
  - BoP surveys conducted on 9 dates, b/t 23-Apr-2023 & 25-Jul-2023, amounting to **38** hours

The results of wider area breeding BoP surveys are provided in the EIAR: Vol. III: Appendix 9.3 - Avian Ecology, Section 5.3.

Overall very few hen harriers were recorded during wider area surveys or during other (non-VP watch) site visits. Only two observations of hen harriers were recorded across all the wider area surveys undertaken, which were both in April 2021 and no breeding behaviour was observed. For other survey types the only other hen harrier sighting was 1 bird within the 500 m turbine buffer during a walkover conducted in 2024.

Hen harrier nesting habitat within the 2 km turbine buffer is notably limited, and relatively isolated to small patches of bog and small blocks of plantations with a closed canopy, i.e. in an unsuitable condition for nesting hen harrier. Therefore, based on habitat availability, it is considered highly unlikely that hen harriers have bred or will breed within the 2 km buffer. The largest expanses of bog habitat and plantation falls within the 500 m turbine buffer; and as outlined in Point 1 above, these areas were comprehensively covered over the breeding season by VP watches and other surveys.

In consideration of the evidence (assessment of habitat availability and wider area surveys covering the 2 km turbine buffer), the ecology team for the Applicant objectively concludes, beyond scientific doubt, that over the 3-year baseline study, hen harriers did not attempt to breed within 2 km of the proposed development.

Point 3

As described in the EIAR, Vol. III: Appendix 9.3: Avian Ecology & CRM Report, Section 3: Desk-based study - the historical distribution of breeding hen harriers in the region (1998-2022), based on the national hen harrier surveys, as summarised in Rudduck et al. (2024)[6], indicates that one of the 10 km Irish grid squares encompassing the proposed development [R26] has not registered any breeding attempts, and although birds have been sighted, no proof of breeding was observed. The other 10 km square [R16] has recorded breeding, which was associated with breeding attempts in the northern part of the 10 km square. These upland areas are > 6 km north from the proposed development.

This observation is supported by the Bird Atlas 2007-11 (Balmer et al. 2013), as reviewed in the EIAR, Vol. III: Appendix 9.3: Avian Ecology & CRM Report, Section 3: Desk-based study, which registered confirmed or possible breeding in three northern tetrads within 10 km square R16 [Tetrads: N, P & U]. Note: Although national hen harrier surveys have only reported presence of birds in R26, roving records for the Bird Atlas 2007-11 reported confirmed breeding for this 10-km square.

[6] Ruddock, M., Wilson-Parr, R., Lusby, J., Connolly, F., J. Bailey, & O'Toole, L. (2024). The 2022 National Survey of breeding Hen Harrier in Ireland. Report prepared by Irish Raptor Study Group (IRSG), BirdWatch Ireland (BWI), Golden Eagle Trust (GET) for National Parks & Wildlife Service (NPWS). I*rish Wildlife Manuals*, No. 147. National Parks and Wildlife Service, Department of Housing, Local Government and Heritage, Ireland. Accessed via: https://www.npws.ie/sites/default/files/publications/pdf/IWM147.pdf

It is noted that the Bird Atlas 2007-11 also recorded possible breeding in one southern tetrad in R16 [K]. This tetrad is approximately 2.5 km west from the proposed development at its closest point and has a high proportion of lowland bog and plantation, potentially suitable for breeding hen harrier. However, the criteria for possible breeding, as applied by the Bird Atlas 2007-11 methodology, only requires a bird to be seen in suitable nesting habitat. As such, this record of possible breeding has not been included in further population assessments (Ruddock et al., 2024) and is considered as - bird(s) foraging/commuting through the area, and more than likely linked to a breeding territory further north[7]. The methodology for the national breeding hen harrier surveys applies stricter criteria relying on multiple visits.

As noted in the EIAR, Vol. II: Chapter 9 - Biodiversity under Section 9.6.1.4.9, the West Clare Uplands Important Bird and Biodiversity Areas (IBA)[8] lies to the north of the proposed development and encompasses the breeding pairs in this region, along with core associated foraging habitat. The separation distance between this IBA and proposed development is beyond the core breeding season foraging for hen harrier, which is given as 2 km in SNH (2016)[9].

Point 4

Related to Point 3, as described in the EIAR, Vol. III: Appendix 9.3 under Section 3 - Desk Study, bird sensitivity mapping (Mc Guinness et al., 2015)[10] was interrogated as displayed on NBDC Biodiversity Maps[11], and clearly illustrated that potentially sensitive areas for hen harriers are located to the north of the proposed development and are within 1 km at the closest point. It is important to note that the edge of the sensitivity zone represents a 2 km (minimum) buffer on known hen harrier breeding/roosting sites. The separation distance is likely to be further, as buffers to nests/roosts are displayed at the 1 km square level and have been randomly offset by expanding buffers, so as not to reveal exact nest locations (Mc Guinness et al., 2015). Therefore, the closest historical nesting locations to the proposed development are over 3 km away to the north, and given the distortion of buffers, this separation distance is probably closer to 4-5 km. Furthermore, 2 km is generally accepted as the core foraging range for breeding hen harriers, as per NatureScot guidance and its application to generate sensitivity zone was considered conservative by Mc Guinness et al. (2015).

[7] **Point of clarification**: The tetrad R16-K was covered May 2020 to May 2021 as part of bird surveys for the Crossmore Wind Farm & Grid Connection (MKO, 2020). These surveys found no evidence of breeding hen harrier over the study period, and this study notes that the species was rarely recorded during the breeding season, with birds only recorded hunting/commuting through the area during the core breeding (April to July) on four occasions. As highlighted under Point 5, below, this result is aligned with the findings of bird surveys undertaken for the proposed development at Cloonkett.
MKO (2020). Crossmore Wind Farm and Grid Connection, Co. Clare - EIAR: Volume I: Chapter 7 - Ornithology. Accessed via: Planning Application: 211057 (Clare County Council): Under Volume I - EIAR (File no. 18 of 20) https://clarecoco.eplanning.ie/iDocsWebDPSS/ViewFiles.aspx?docid=568286&format=djvu

[8] **Point of clarification**: Within the West Clare Uplands IBA is a smaller area, which more tightly encompasses the recorded breeding distribution in the region. This smaller area is referred to as the 'North & West Clare non-designated important regional breeding area' for hen harrier and is recognised under the *Hen Harrier Threat Response Plan 2024-2028* (NPWS, 2024) and the area selected was based on the 2015 national hen harrier survey. The exact delineation of this area is slightly unclear, however the southern extent of the West & North Clare non-designated important regional breeding area closest to the proposed development appears to be aligned along the L4074: Ennis-Creegh road, which is > 6 km north the proposed development site at Cloonkett.
NPWS (2024). Hen Harrier Threat Response Plan 2024-2028. Prepared by NPWS, DoHLGH, DoAFM, DoECC. Accessed via: https://www.npws.ie/sites/default/files/publications/pdf/hen-harrier-threat-response-plan-final.pdf

[9] Scottish National Heritage, now NatureScot - SNH (2016). *Assessing Connectivity with Special Protection Areas (SPAs) Guidance*.

[10] Mc Guinness, S., Muldoon, C., Tierney, N., Cummins, S., Murray, A., Egan, S. & Crowe, O. (2015). *Bird Sensitivity Mapping for Wind Energy Developments and Associated Infrastructure in the Republic of Ireland*. BirdWatch Ireland, Kilcoole, Wicklow. Accessed via: https://tethys.pnnl.gov/sites/default/files/publications/McGuinness-2015.pdf

[11] National Biodiversity Data Centre (NBDC) Biodiversity Maps - with the layer for Bird Sensitivity switched on. Accessed via: https://maps.biodiversityireland.ie/Map

In 2024, the closest hen harrier breeding site that the ecology team for the Applicant were aware of, nested in the uplands of the IBA approximately 6.5 km north/ northeast of the proposed development.

Therefore, in consideration of the evidence presented in the EIAR on the historical hen harrier breeding distribution in the region, as detailed in Point 3 and Point 4 above, and how birds were recorded predominately utilising the 500 m turbine buffer outside of the breeding season, as detailed in Point 5 below, the Applicant's ecologist concludes, based on the best available scientific evidence, that it is unlikely that hen harriers have attempted to breed within 3 km (minimum) of the proposed development in the last 10-20 years, with sufficient regularity, for any part of the 2 km turbine buffer to be considered a traditional hen harrier breeding site.

Point 5

In addition to investigating the proximity of proposed development activities to nesting locations, the ornithological baseline study examines how hen harriers utilise the 500 m turbine buffer, as this is the zone of influence for assessing collision risk and potential for disturbance/displacement to foraging birds. Further evidence of the lower importance of the proposed development site for breeding hen harriers, relative to the non-breeding season, is apparent if the seasonal distribution of records are reviewed.

Hen harrier activity in relation to the proposed development is summarised in the EIAR, Vol II: Chapter 9: Biodiversity, Section 9.3.5.2.3, which notes that a total of 65 observations hen harriers were recorded within or surrounding the 500 m turbine buffer during VP watches conducted over the 3-year baseline study and generated 15,500 seconds (aggregated) of hen harrier activity. Further, detail on seasonal occurrence of hen harrier activity is provided in the EIAR: Vol III: Appendix 9.3: Table 26 (Year 1), Table 28 (Year 2) and Table 30 (Year 3).

Taken at face value 65 observations may appear to be representative of a moderate level of activity across the site. However, it is important to contextualise this value in relation to survey effort over three years and to understand that some of these observations will involve the same bird recorded multiple times over the same period of a VP watch. Sometimes a flight track may have been separated into different observations because a bird changed behaviour, e.g. started to circle up after undertaking a hunting flight. A case in point is the 15 observations attributed to breeding season 2024, which were actually generated by observations on seven dates, i.e. the same bird was recorded several times on the same watch. For clarification, over the 3-year study out of 101 days when VPs were being undertaken (amounting to 1,064 hours), hen harriers were recorded on 35 dates (amounting to 15,500 seconds, equivalent to 4.3 hours). For clarification, this indicates that hen harriers were recorded utilising the 500 m turbine buffer on approximately 35% of the days the site was visited for VP watches and on were only recorded for 0.4% of the time surveyors were monitoring the 500 m turbine buffer.

While it can be useful to look at raw data for flight time and number of observations in this way, it is not the intended function of VP watches, which collect data on flight activity to populate the collision risk models for target species. One of the core functions of running the data through collision risk models is to analyse the amount of flight time in relation to survey effort and spatial coverage of the 500 m turbine buffer from vantage points - for Collision Risk Modelling report see EIAR, Vol. III: Appendix 9.3 - Appendix XVII.

Examination of the temporal distribution of hen harrier observations recorded during VP watches (EIAR: Vol III: Appendix 9.3: Table 26, Table 28, Table 30) finds that the majority of the observations are recorded outside the breeding season, with a total of 35 observations (recorded on 26 dates) attributed to the non-breeding season and with significantly fewer attributed to the breeding season, 23 observations (recorded on 16 dates)[12]. The majority of the observations recorded over the breeding season were actually birds foraging through the site later in the summer (July, August, September), when pairs have either failed or have fledged young and are starting to disperse away from breeding sites [13].

In terms of assessing potential for connectivity between the proposed development and breeding pairs in the wider area the core breeding season foraging range cited for the species in SNH (2016)[14],[15] is 2 km, with a maximum range given as 10 km. The maximum breeding season foraging distance recorded for the species in Ireland is 11.4 km (Irwin et al., 2012)[16],[17].

In conclusion, the reduction in hen harrier activity over the breeding season is a strong indication that hen harriers do not breed within the 2 km turbine buffer and it can be objectively concluded, without scientific doubt, that the proposed development is not within the core breeding season foraging of any pairs, and it can also be to concluded that the proposed development is beyond the zone of influence of any pairs, most probably breeding > 5-6 km away to the north of the site within the West Clare Uplands Important Bird and Biodiversity Areas (IBA)/West & North Clare non-designated important regional breeding area for hen harriers.

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[12] **Point of clarification**: This includes 13 observations of hen harriers recorded beyond the 500 m turbine buffer.

[13] **Point of clarification**: As noted above in footnote for Point 3, this finding concurs with the proportionally lower utilisation of the neighbouring site at Crossmore [R16-K] over the breeding season by hen harriers (MKO, 2020).

[14] SNH (2016). *Assessing Connectivity with Special Protection Areas (SPAs)*. SNH Guidance Note. Accessed via: https://www.nature.scot/doc/assessing-connectivity-special-protection-areas

[15] **Point of clarification**: The foraging figures cited by SNH (2016) are based on research tracking breeding hen harriers in Scotland, as detailed in Amur et al. (2005, 2008) and Arroyo et al. (2014), which involved tracking birds in open moorland as opposed to the more forested landscapes occupied by the species in Ireland. The Arroyo et al. (2014) study employed radio-tracking of ten breeding harriers (five males and five females) in three Scottish SPAs between 2002 and 2004. Male hen harriers travelled up to 8.5 km from nests and had a home-range size that averaged 8 km^2. The average home-range size for females was 4.5 km^2 - see Arroyo, B., Leckie, F., Amar, A., McCluskie, A. & Redpath, S. (2014). Ranging behaviour of Hen Harriers breeding in Special Protection Areas in Scotland. *Bird Study* 61: 48–55. Accessed via: https://www.tandfonline.com/doi/full/10.1080/00063657.2013.874976#d1e472

[16] Irwin, S., Wilson, M.W., O'Donoghue, B., O'Mahony, B., Kelly, T.C. & O'Halloran, J. (2012). *Optimum scenarios for Hen Harrier conservation in Ireland*. HEN HARRIER Final Report, April 2012 prepared by UCC for the Department of Agriculture, Food & the Marine. Accessed via: https://www.ucc.ie/en/media/research/planforbio/pdfs/HEHHARRIERFinalProjectReportJune2012.pdf

[17] **Point of clarification**: Unpublished NPWS guidance for assessing wind farm impacts on breeding hen harrier (NPWS, 2003) gives 5 km as the normal foraging range of male hen harriers. This is aligned with Irwin et al. (2012), who employed GPS tags to successfully track three breeding adults in the Ballyhouras in 2010 and 2011. Over four days tracking the maximum distance from the nest travelled by a female was 7.5 km and by a male was 11.4 km. Over all the foraging tracks, 22% were within 1 km of the focal nest, 49% within 2 km and 89% within 5 km. The proportion of forestry to open habitats is notably high in the Ballyhouras, which is likely to increase the foraging ranges of breeding hen harriers in this region. Longer distance commutes may be more applicable for regions where forestry is a dominant feature of the landscape and birds are likely to travel further to find suitably open habitats or habitat edges along blocks of plantation for hunting. Forestry plantations are certainly a prominently habitat feature in the uplands of the Loop Head peninsula; however, there is a significantly high proportion of open bog/heath and rough grassland available compared to the Ballyhoras. Therefore, it would be anticipated that breeding season foraging ranges in this region will be smaller and more inline with Scottish data.
NPWS (2003). *Recommended methodology for assessment of impacts of proposed windfarms on breeding Hen Harrier within the known range of the species in Ireland*. Unpublished guidance prepared by National Parks & Wildlife Service, BirdWatch Ireland, Irish Raptor Study Group.

Point 6

This point focuses on hen harrier utilisation of the proposed development out of the breeding season. The EIAR: Vol III: Appendix 9.3: Table 26, Table 28, Table 30 shows the seasonal breakdown of flight time over the three study years. As noted under Point 5, the majority of the hen harrier observations recorded during VP watches were outside of the core breeding season (April to July), with around 85% recorded between late-summer (mid-July) and spring (end of March). Based on the distribution of pairs in the region, core/max. foraging ranges (Point 1 to Point 5) and hen harrier breeding phenology (Hardey et al., 2013)[18]; observations within the 500 m turbine buffer over the late summer (mid-July onwards) were considered to be birds that were non-breeding, either having failed or fledged young and were starting to disperse away from breeding sites or alternatively they could be sub-adult (pre-breeding age) birds[19]. Of the birds recorded during VP watches 75% were males, indicating not only relatively few females were utilising the area, but also that relatively few fledgings (typically recorded as ringtails) were recorded.

Therefore, it can be objectively concluded that any ecological importance that the landscape encompassing the proposed development has for hen harriers is as a foraging habitat, outside the breeding season. A certain level of usage would be expected given the proximity to hen harrier breeding strongholds across the west and southwest of Ireland, as well as the low lying nature of the area and the mosaic of habitats available. As detailed in the EIAR, Vol. II: Chapter 9 - Biodiversity under Section 9.6.2.3.10, in assessing potential impacts due to habitat loss/alteration, it is important to note that the habitat regime within the 500 m turbine buffer is relatively widespread across the lowlands of the Loop Head peninsula and given the relatively discrete nature of development's footprint, it will not contribute significantly to loss/alteration of hen harrier foraging habitat, either directly or indirectly.

Furthermore, in terms assessing potential loss of hen harrier foraging habitats consideration should be given to the following additional supporting comments, based on any direct loss of habitat being more than adequately offset through the habitat management, enhancement, restoration and creation measures detailed in the Biodiversity Management and Enhancement Plan (BMEP) - see EIAR, Vol. II: Chapter 9 - Biodiversity under Section 9.10. and EIAR, Vol. III: Appendix 9.5: BMEP. Hen harriers are not specifically mentioned in the BMEP; as the likely positive effects anticipated for hen harrier foraging habitats and prey species is an unintentional positive consequences of the BMEP, including:

- Proposed peatland restoration and enhancement measures, which will enhance raised bog and create more bog pools, standing water in blocked drains and wet flushes that will attract wintering snipe.
- Habitat creation, management and enhancement for foraging waders, which are prey species for hen harriers, through provision of constructed wetland habitats, i.e. wader scrapes, but also re-purposing SuDS infrastructure to create longer-term wetland habitats.
- Proposed protection and enhancement of species rich wet grassland and bog for marsh fritillary, which also enhances habitat for populations of ground nesting birds, like meadow pipits and skylark that are important prey species for hen harriers.

[18] Hardey, J., Crick, H., Wernham, C., Riley, H., Etheridge, B. & Thompson, D. (2013). *Raptors: a field guide to survey and monitoring* (3rd Edition). The Stationery Office, Edinburgh. Accessed via: https://raptormonitoring.org/need-advice-on-monitoring

[19] **Point of clarification:** Hardey et al. (2013) give the peak fledging period as late-June to mid-July (Range: mid-June to late-August). O'Donoghue (2010) studying hen harriers in Ireland reports a similar range (mid-June to mid-Aug) and found a peak in fledging around the two weeks in the middle of July (57% of n = 63 broods).
O'Donoghue, B.G. (2010). The Ecology and Conservation of Hen Harriers (Circus cyaneus) in Ireland. Ph.D. Thesis, Department of Zoology, Ecology & Plant Science, National University of Ireland, Cork

- Enhancement of riparian corridor through fencing and planting of woodland/hedgerows, as well as compensatory planting for lesser horseshoe bat habitats will introduce/strengthen hedgerows and scrubby linear feature along which hen harriers can hunt and ambush prey species. These habitats support important hen harrier prey species, including bank voles and winter thrushes like redwing.
- Removal of conifer plantations, which is thought to enhance habitats for bank voles.

Point 7

Survey effort for hen harrier roost searches is detailed in the EIAR, Vol. III: Appendix 9.3 - Appendix X, which ensured potential roost habitat within the 2 km turbine buffer was covered at least once over three non-breeding seasons, with the best areas covered on multiple dates. In summary coverage including:

- Non-breeding season 2021-22: dusk watches
  - On four dates, duration: 1 to 3 hours amounting to 7.5 hours
- Non-breeding season 2022-23: afternoon searches with dusk watches
  - On three dates employing 3 surveyors for each watch, duration: 2.5 to 5 hours amounting to 34 hours
- Non-breeding season 2023-24: afternoon searches with dusk watches
  - On six dates, duration: 2.5 to 5 hours amounting to 20 hours

NatureScot guidance recommends surveying suitable habitat out to 2 km from proposed wind farms developments to identify hen harrier roosts, and defer to Hardey et al. (2013) for specific roost survey methodology. This requires surveyors to employ professional judgement in identifying and targeting potential roosts based on observed flight activity within or adjacent to the proposed development. Hardey et al. (2013) recommend locating birds in the late afternoon and then attempting to track them back to roosts.

If a roost is identified, then further monitoring is required to describe roost attendance and to track flight lines to and from the roost in relation to the proposed development. Repeated monitoring is important to confirm that potential roost locations are not just occupied on a one-off basis. Roosts can be occupied by a single bird or several individuals and the maximum number of birds in attendance reported for an Irish communal hen harrier roost was 16 birds (O'Donoghue, 2019).

In terms of elevation the proposed development lies between 60-100 m, which is within the altitudinal range supporting the majority of roosts in Ireland and the 500 m turbine buffer was identified as holding some potentially suitable habitat for roosting (Clarke & Watson, 1990, O'Donoghue, 2019), including scrub, bog and failed plantation; although there were several disturbance factors occurring across much of the area that may limit suitability, including closeness to roads, turf extraction, agricultural activities and clearfelling operations. Potential cover for roosting for hen harriers is widely available across the Loop Head peninsular.

No hen harrier roosts were identified during dusk roost surveys.

In conclusion, on the basis that no hen harrier roosts were located within the 500 m turbine buffer, direct impacts to roosting birds and direct loss of roost habitat could be ruled out. Likewise, indirect disturbance and displacement of roosting birds can be ruled out.

2.2.8 Item no. 8: 5.5 Natural Heritage - 5.5.2 Avi Fauna (Cumulative Effect)

The in-combination and cumulative effect on this species from the high number of wind farms already developed in conjunction with this wind farm has not been assessed in the context of it being a protected raptor. listed in Annex I of the EU Birds Directive and as such, Member States are obligated to protect and conserve the species as opposed to their being a Special Protection Area for the species within the Zone of Influence and therefore it being a Special Conservation Interest.

*2.2.8.1 **Response***

Assessment of cumulative effects for hen harrier

Clare County Council requires clarification in relation to cumulative effects on hen harriers. As noted by Clare County Council, from a cumulative impact perspective the number of existing and planned turbines associated with the West Clare Uplands Important Bird and Biodiversity Area (IBA)/West and North Clare non-designated regional important breeding area (N-DIRBA) for hen harriers. The submission questions the number of turbines permitted within and around this breeding area before population level effects become apparent.

In relation to assessing the potential for cumulative effects of the proposed development in-combination with other consented/operational wind farms, the first important point to stress is that the evidence presented within the EIAR (as summarised in Point 1 to Point 7 above) clearly demonstrates that the source-receptor-pathway for potential significant effects between the proposed development site and the hen harrier breeding area to the north are weak. This includes a separation of distance of at least 5 km between the West & North Clare non-designated important regional breeding area (N-DIRBA) and the proposed development, minimal use of the 500 m turbine buffer by hen harriers during the breeding season and no ex-situ breeding or roosting sites located within 2 km (minimum) of the proposed development. Therefore, based on the evidence, the likelihood of the proposed development acting in-combination with existing/consented turbines within or adjacent to IBA/N-DIRBA is considered minimal, as these developments, with exception of Crossmore Wind Farm are all > 8 km from the proposed development.

Assessment of effects to hen harrier during the construction and operational phases of the proposed development are provided in the EIAR, Vol. II: Chapter 9 - Biodiversity, under Section 9.6.1.4.9 and Section 9.6.2.3.10, respectively.

The EIAR, Vol. II: Chapter 9 - Biodiversity under Section 9.6.4 (Cumulative Effects - Project) covers in-combination effects. Within this section projects identified with potential for cumulative effects are listed in Table 9.38, and Table 9.39 lists the operational and consented wind farms within 20 km of the proposed development. A total of 15 wind farms were identified within a 20 km buffer of the proposed development, the closest being Crossmore Wind Farm (7 no. turbines), which is located approximately 4.4 km west of Cloonkett.

All the other consented/operational wind farms are > 8 km away from the proposed development, as presented in EIAR, Vol. II: Chapter 15 - LVIA. Figure 15-15 provides a map showing the distribution of the closest consented/operational wind farms in relation to the location of the proposed development and illustrates the cluster of wind farms in the uplands north of the N86: Ennis-Kilrush road that are within 8-15 km of the proposed development. Three additional wind farms are more distantly located (> 15 km) to the west, including coastal turbines at Money Point (c. 17 km), and Moanmore and Tullabrack Wind Farms (c. 19 km) that occupy low-lying bog, forested and agricultural habitats inland from Kilrush. Aside from Grouse Lodge Wind Farm and Carrons Wind Farm, turbines on the south side of the Shannon Estuary are all located > 20 km from the proposed development.

Based on EIAR, Vol. II: Chapter 15 - LVIA, as presented in Figure 15-15 and Table 15-9 it is estimated that the uplands to the north of proposed development, within 8-15 km, holds approximately 50-58 operational turbines, with a further 10 turbines consented. Including Crossmore (T7), Sleive Callan (T29), Moanmore (T7), Tullabrack (T6) there is in the region of 99-107 operational turbines in and around the West Clare Uplands IBA/West & North Clare N-DIRBA for hen harriers[20].

The EIAR, Vol. II: Chapter 9 - Biodiversity, under Section 9.6.4.2 covers potential for cumulative effects on bird populations in the region under the following headings:

- 9.6.4.2.1: Cumulative habitat loss
- 9.6.4.2.2: Cumulative barrier effect
- 9.6.4.2.3: Cumulative operational displacement effects
- 9.6.4.2.4: Cumulative effects of collision risk

As noted in the EIAR, Vol II: Chapter 9 under Section 9.6.4.2 there are a number of difficulties to consider when assessing the potential for cumulative effects of wind farm developments on bird populations, which largely pertain to the access of information, and this discussed under Section 9.6.4.2.4 in relation the difficulties of realistically assessing the cumulative effects of collision risk.

For the purposes of clarification, the impact assessments for hen harrier from Section 9.6.1.4.9 and Section 9.6.2.3.10 are summarised in the following sections, together with the ornithological cumulative impact assessment from Section 9.6.4.2.

Likely significant effects during construction

As detailed in EIAR, Vol. II: Chapter 9 - Biodiversity under Section 9.6.1.4.9, during construction there will be no direct effects on nesting or roosting hen harriers, as there were no breeding or roosting sites identified within or adjacent to the 500 m turbine buffer. All construction works will be taking place well beyond NatureScot best-practice disturbance zone buffers, which for hen harrier is 300-750 m (Goodship & Furness (MacArthur Green), 2022)[21].

Given the relatively dispersed distribution of other projects under construction in the region, this assessment holds for hen harrier when considering the potential for cumulative effects.

As detailed in EIAR, Vol. II: Chapter 9 - Biodiversity under Section 9.6.1.4.9, construction activities may have temporary indirect effects by occasionally displacing individual hen harriers foraging through the area. However, the short-term nature of the proposed construction works, as well as the discreet nature of the proposed development within the wider landscape and the availability of alternative foraging areas, potential secondary effects on foraging hen harrier were assessed as imperceptible and therefore not significant.

Given the relatively dispersed distribution of other projects under construction in the region, this assessment holds for hen harrier when considering the potential for cumulative effects.

[20] **Point of clarification**: Stating the exact number of consented/operational turbines over a large region can be difficult to ascertain with absolute certainty, due alterations to planning consents, decommissioning, re-powering and trading in wind farm developments, i.e. name changes and site amalgamations.

[21] Goodship, N. M. & Furness, R. W. (MacArthur Green), (2022). Disturbance Distances Review: An updated literature review of disturbance distances of selected bird species. *NatureScot Research Report* No. 1283. Accessed via: https://www.nature.scot/doc/naturescot-research-report-1283-disturbance-distances-review-updated-literature-review-disturbance

EIAR, Vol. II: Chapter 9 - Biodiversity under Section 9.6.4.2 (Birds) covers potential for cumulative effects on bird populations in the region under the following headings, which relate to potential operational impacts:

- 9.6.4.2.1: Cumulative habitat loss
- 9.6.4.2.2: Cumulative barrier effect
- 9.6.4.2.3: Cumulative operational displacement effects
- 9.6.4.2.4: Cumulative effects of collision risk

Operational habitat loss

EIAR, Vol. II: Chapter 9 - Biodiversity under Section 9.6.4.2.1 concludes that any cumulative effects of operational habitat loss are highly unlikely based on the avian impact assessments for specific species, as detailed under Section 9.6.2.3 (Avian Ecology) and taking into account mitigation measures during construction, including habitat removal outside the bird breeding season, as outlined in Section 9.7 and the offsetting of habitat loss, as set out in the Biodiversity Management and Enhancement Plan (BMEP) - see Section 9.10.

For hen harrier - EIAR, Vol. II: Chapter 9 - Biodiversity under Section 9.6.2.3.10.1 covers potential for likely significant effects due to operational habitat loss, and states that there are no important habitats with a limited distribution or availability utilised by hen harrier that will be lost to the infrastructural footprint of the proposed development site, and the linear pattern of habitat loss, over a very discrete area, is not anticipated to alter the density of prey species post-construction. The baseline study did not identify any active breeding or roosting sites within or adjacent to the proposed development site. Therefore, there will be no loss of habitats specifically utilised for breeding or roosting.

In conclusion, without considering the potential positive effects of proposed habitat enhancement measures, the potential for likely significant effects due to operational habitat loss on hen harriers can be excluded, both alone and in-combination with other projects.

Barrier effects

EIAR, Vol. II: Chapter 9 - Biodiversity under Section 9.6.4.2.2 covering potential cumulative barrier effect defers to the assessment of barrier effects presented in Section 9.6.2, which in summary concludes that no likely significant in-combination barrier effects are anticipated, given:

- the relatively isolated nature of the proposed development, with the closest consented/operational wind farm being > 4 km away;
- the limited extent and thin, linear arrangement of the turbine array that does not present any significant barrier to birds moving the area; and,
- that no high levels of migration through the Site were identified and there were no regular utilised flight paths between any roosting/breed sites and foraging areas.

For hen harrier - based on the points raised in Section 9.6.2 potential of likely significant effects due barrier effects were scoped out for further assessment.

In conclusion, without considering the potential positive effects of proposed habitat enhancement measures, the potential for likely significant effects due to barrier effects on hen harrier can be excluded, both alone and in-combination with other projects.

Operational displacement effects

EIAR, Vol. II: Chapter 9 - Biodiversity under Section 9.6.4.2.3 covering potential for **cumulative operational displacement effects** notes that the ornithological impact assessment found that breeding snipe were the only species potentially at risk of displacement. The point is also made that displacement effects for wind farms constructed pre-2021 have been measured and accounted for as part of the ornithological baseline study for the proposed development (April 2021 to September 2024). Ecological reporting for the closest post-2021 consented/operational wind farm - Crossmore Wind Farm (MKO, 2020) concluded this development did not have the potential to result in any additional habitat loss or displacement with respect to ornithological receptors.

For hen harrier - EIAR, Vol. II: Chapter 9 - Biodiversity under Section 9.6.2.3.10.2 covers potential for likely significant effects due to **operational displacement effects**, and states that there are no hen harrier breeding or roosting sites located within the 2 km turbine buffer. The majority of hen harrier activity was recorded during the non-breeding seasons and related to foraging birds. Therefore, in terms of indirect impacts operational turbines may have a localised effect, displacing the occasional individual foraging around turbines. However, in consideration of the discrete, relatively linear nature of the turbine array within the wider landscape, the availability of alternative foraging areas within the wider area and the intermittent level of recorded usage of the area, it has been demonstrated that hen harriers are not exclusively reliant on the proposed development site. Therefore, based on hen harriers exhibiting a level of tolerance to operational turbines, the magnitude of any disturbance and/or displacement effects on foraging harriers are assessed as negligible and no likely significant effects were anticipated.

In conclusion, without considering the potential positive effects of proposed habitat enhancement measures, there is no potential for likely significant effects due to disturbance to foraging hen harrier, both alone and in-combination with other projects.

Collision risk

For hen harrier, **collision risk** is assessed in the EIAR, Vol II: Chapter 9: Biodiversity, Section 9.6.2.3.10.3, with full details of collision risk modelling (CRMs) provided in the EIAR, Vol. III: Appendix 9.3 - Appendix XVII (CRM report).

EIAR, Vol. II: Chapter 9 - Biodiversity under Section 9.6.2.3.10.3 discusses the potential for likely significant effects due to collision risk and information on avoidance and the likelihood of birds colliding with turbines based on seasonality of activity and flight behaviour is covered. The assertion is that hen harriers predominately utilise the proposed development site outside of the core breeding season (April-July), and observations were birds foraging/commuting through the area, rather than undertaking the elaborate display flights (skydancing) and food passes that are likely to increase the risk of collisions with man-made features, like turbines. In addition, being relatively distant from nesting locations, the proposed development is less likely to be used by recent fledged birds that are considered to be at higher risk of collision, due to naivety in novel environments and being less mobile than adults, larger females in particular.

Typical foraging hen harriers quarter close to the ground (> 10 m) when hunting (Watson, 1977)[22], and the majority of flights will tend to be assigned to height bands below the rotor swept area. However, as detailed in the EIAR, Vol III: Appendix 9.3 - Appendix XVII (CRM report) the lowest rotor swept height tested by the collision risk modelling was 12 m, which is low, even relative to hen harrier foraging flights. As such a proportionately high amount of flight time was assigned to the collision risk zone (CRZ) and a precautionary approach was taken with all flight time > 10 m being assigned to the CRZ. In addition, for some flight records, time when birds were recorded on the ground, e.g. diving after prey and then perching, was not excluded from overall flight time. Therefore, the total amount of flight time applied in the models can be considered precautionary.

For clarity and as detailed in the EIAR, Vol III: Appendix 9.3 - Appendix XVII (CRM report), the collision risk model gives the option of assessing flapping or gliding flight behaviour, with flapping presenting a higher risk volume. Again the precautionary option (flapping) was applied, which for hunting hen harriers that spend a high proportion of time gliding, will inflate the outputs for predicted collision risk. A flight speed of 9.1 m/s (c. 33 km/h) was applied in the model, which is significantly slower than flight speeds used for all the other species tested. This is considered appropriate for foraging hen harriers, as quartering flights are relatively slow. A slower flight speed means it takes birds longer to pass through the rotor swept volume and increases the collision risk. This relationship is often balanced out as slower flight speed generates proportionately less transits through the collision risk zone. Male and female hen harriers vary in size, with males being smaller than females and generally observed to be more agile[23]. Of the birds recorded during VP watches 75% were males. To account for male and female flight volumes, the modelling typically applies average wingspan and bodylength. Larger birds present a higher collision risk volume and in this instance, because more smaller males were active through the 500 m turbine buffer, modelled outputs will be precautionary.

In terms of the turbine specifications and operating parameters tested, these were considered precautionary, including rotor depth (4 m), blade pitch (6 degrees), 85% operational period, i.e. relatively low turbine downtime (15%) and relatively fast average rational periods, i.e. blades turning faster. A collision risk estimate for the turbine specification being tested was generated by averaging outputs from upwind and downwind flights, which ranged from 6.6% to 7.6% and this was the highest across all the species tested, apart from grey heron.

[22] Watson, D. 1977. *The Hen Harrier*. T & A.D. Poyser, London.

[23] **Point of clarification**: Male hen harriers are more agile than females - see Nieboer (1973), Schipper et al. (1975), Vincheuski (2019) in McCarthy (2022).
Nieboer, E. (1973). *Geographical and Ecological Differentiation in the Genus Circus*. PhD Thesis, Vrije Universiteit Amsterdam.
Schipper, W. J. A., Buurma, L. S. & Bossenbroek, P. (1975). Comparative study of hunting behaviour of wintering Hen Harriers Circus cyaneus and Marsh Harriers Circus aeruginosus. *Ardea* 63: 1-29.
Vincheuski, D. (2019). *Differences in hunting between wintering males and females of Hen Harrier in Belarus*. International Hen Harrier and Short-eared Owl meeting 2019, 20th -22nd March. Groningen, The Netherlands.
McCarthy, A. (2022). *Seasonal Ecology and the Conservation of Hen Harriers (Circus cyaneus) in Ireland.* PHd Thesis, School of Biological, Earth & Environmental Sciences, University College Cork. Accessed via:
https://www.ucc.ie/en/media/research/planforbio/forestecology/AlanMcCarthy_PhDthesis_2022.pdf

Hen harrier are considered to exhibit relatively high rates of turbine avoidance and as recommended by NatureScot (2025)[24] the CRMs applied 99% avoidance, which based on the flight activity recorded within the CRZ generated predicted collision risk outputs of between 0.02 and 0.04 collisions per annum, equivalent to 0.8-1.6 collisions over the 40-year operational life of the project. Taking account of the precautionary approach applied in selecting model parameters, the upper collision risk estimate is considered unrealistically high and predicted collision is likely to be closer to the lower estimate, which is still regarded as precautionary. It is the opinion of the ecologist team for the Applicant, that the average, 0.03 collisions per annum (1.2 collisions over 40 years) remains on the high side of conservative[25].

The EIAR, Vol. II: Chapter 9 - Biodiversity under Section 9.6.2.3.10.3: Hen harrier - Collision risk, concludes that annual mortality required to have a 1% population effect would have to be higher than 0.60 collisions per year, if applying the average adult survival rate (0.81) for hen harrier (BTO BirdFacts)[26] to an Irish wintering population estimated at 311 birds (acknowledged as an underestimate). Based on Percival (2003), the magnitude of effect due to predicted collisions on the national hen harrier wintering population would be considered negligible, i.e. < 1% population effect.

A population effect of > 1% above background mortality is generally considered to require assessment as a likely significant effect (Percival, 2003)[27], although it is important to note that low level (1-5%) effects are unlikely to have any substantial impact on a given population when considered in isolation.

Percival (2003) defines a < 1% population effect as being an effect of ***Negligible*** magnitude resulting in:

> *"Very slight reduction in the size or productivity of a bird population due to mortality or displacement or disturbance. Reduction barely discernible, approximating to the 'no change' situation".*

Percival (2003) defines a 1-5% population effect as being an effect of ***Low*** magnitude resulting in:

> *"Small but discernible reduction in the size or productivity of a bird population due to mortality, displacement or disturbance".*

[24] NatureScot (2025). *Wind farm impacts on birds - Use of Avoidance Rates in the NatureScot Wind Farm Collision Risk Model*. Version 4, updated September 2025, NatureScot. Accessed via: https://www.nature.scot/doc/wind-farm-impacts-birds-use-avoidance-rates-naturescot-wind-farm-collision-risk-model **Point of clarification**: Avoidance rate for hen harrier is based on research Whitfield, D.P. & Madders, M. (2006). *A review of the impacts of wind farms on hen harriers Circus cyaneus and an estimation of collision avoidance rates*. Natural Research Information Note 1 (revised). Natural Research Ltd, Banchory, UK. Accessed via: https://www.natural-research.org/application/files/2614/9623/5675/NRIN_1_whitfield_madders.pdf

[25] **Point of clarification**: Based on the unpublished results of post-construction monitoring at a 40 turbine wind farm in a hen harrier SPA, one turbine mediated mortality over the project's 40 year lifetime would not be unexpected. This is aligned with estimates of 0.01 to 0.03 collisions per year given by Wilson et al. (2015) investigating hen harrier collision risk for a typical large scale wind farm (15 turbines) associated with a hen harrier SPA.
Wilson, M, Fernández-Bellon, D., Irwin, S. & O'Halloran, J. (2015). T*he interactions between Hen Harriers and wind turbines*. WINDHARRIER. Final project report, prepared by School of Biological, Earth & Environmental Sciences, University College Cork, Ireland. Accessed via: https://www.ucc.ie/en/media/research/planforbio/forestecology/WINDHARRIERFinalProjectReport.pdf

[26] BTO (2026). BTO BirdFacts - Hen Harrier. BTO, Thetford. Accessed via: https://www.bto.org/learn/about-birds/birdfacts/hen-harrier

[27] Percival, S.M. (2003). *Birds and Wind Farms in Ireland: A Review of Potential Issues and Impact Assessment*. Sustainable Energy Ireland. Accessed via: https://tethys.pnnl.gov/sites/default/files/publications/Percival_2003.pdf

Based on Percival (2003), as an ecologically sensitive species (listed on Annex I of Bird's Directive, with unfavourable - amber listed - conservation status in Ireland that is not part of an SPA population, the avian sensitivity for hen harrier is classed as ***High***.

Note: Potential for ecological links between the proposed development and the closest SPA where hen harrier is listed as an Special Conservation Interest were discounted based on separations distances, as detailed in Vol. VI: NIS - see Section 4: AA - Screening pp. 39 and 43

As stated in the EIAR, Vol. II: Chapter 9 - Biodiversity under Section 9.7.3.4, the potential adverse effects on birds during the operational phase of wind farm developments relate to the consequential effects on sensitive populations from mortality arising from turbine collisions, as well as any displacement effects of operational turbines. The relative magnitude of effects due to displacement and collision caused by operational wind turbines can be inter-related. For instance, displacement effects on a population are likely to limit collision risk. However, this relationship is seldom likely to be absolute, and the relationship between displacement and collision risk is more likely to be dynamic, evolving over time. For example, birds initially displaced by turbines can become increasingly habituated to them over time, which may correspondingly result in increased levels of collision risk, if the species is susceptible to collisions. This highlights the importance of post-construction monitoring for wind farm developments.

Post-construction ornithological monitoring is detailed in the EIAR, Vol. II:, Chapter 9 - Biodiversity under Section 9.10.9.4 Avian IEFs - Monitoring measures. Hen harrier are listed as one of the main target species, along with kestrel. Ornithological monitoring surveys will start prior to the commencement of construction and, as per SNH (2009)[28] guidance, will continue post-construction in Years 1, 2, 3, 5, 10 and 15 of the wind farm's lifetime. In accordance with Article 16b of RED III, the occasional or incidental killing of birds by the operation of a renewable energy plant shall not be considered to be deliberate and therefore prohibited by Article 5 of the Birds Directive where appropriate and necessary mitigation measures have been adopted.

EIAR, Vol. II:, Chapter 9 - Biodiversity under Section 9.6.4.2.4 covering potential for **cumulative effects of collision risk** discusses the difficulties of realistically assessing the cumulative effects of collision risk. SNH (2018)[29] provides guidelines for the assessment of cumulative impacts and the effects of onshore wind farms on ornithological receptors. These guidelines recommend taking an additive approach to the assessment of cumulative effects, which sums the impacts from different developments and can provide a quantitative assessment in relation to cumulative collision risk. It is noted that in some instances the additive approach may be too simplistic to fully account for cumulative effects, given the complex ecological life histories of some species, especially when assessing the effects of disturbance. A qualitative assessment is likely to be more appropriate in some cases and this can rely on the application of professional judgement and further information provided in the desk study, e.g. review EIS for wind farms in the ZoI, or for example by undertaking population viability modelling.

[28] SNH (2009). *Monitoring the impact of onshore wind farms on birds*. Scottish Natural Heritage, Inverness, Scotland. Accessed via: https://www.nature.scot/sites/default/files/2025-05/guidance-note-monitoring-the-impact-of-onshore-windfarms-on-birds.pdf

[29] SNH (2018), updated NatureScot (2025). *Assessing the cumulative impacts of onshore wind farms on birds*. Scottish Natural Heritage, Inverness, Scotland. Accessed via: https://www.nature.scot/doc/guidance-assessing-cumulative-impacts-onshore-wind-farms-birds

Predicted collision risk, as calculated using the Band model, is assumed to reflect the level of turbine mediated mortality that will be experienced over the life span of the proposed project. If modelled outputs are assessed as presenting a collision risk to sensitive species, i.e. population level effect > 1%, post-construction turbine searches are typically undertaken. These can be used to determine the actual collision rates for a given wind farm. Therefore, as collisions are theoretically a risk throughout the life span of wind farms, cumulative collision risk effects on species need to consider all the wind farms within the zone of influence selected, 15-20 km in this instance. As acknowledged in SNH (2018), this additive approach will not always reflect the complexity of collision risk effects over time. In addition, it is widely accepted (SNH, 2018) that undertaking a meaningful assessment can be problematic, as there is not always detailed collision risk information available for other wind farms.

For example, Crossmore Wind Farm, which was initially consented at a time (2009) when the requirement for robust ornithological impact assessments was less onerous and no collision risk study was conducted - more recent ornithological studies conducted by MKO, although covering the wind farm site were designed to assess the grid connection. As such the assessment of cumulative collision risk has to rely on the statements of significance in EISs for older projects, which are generally along the lines of - imperceptible effects on sensitive bird species, no potential for impact on all bird species and almost ubiquitously significant cumulative impacts are not anticipated. For sites, like Booltiagh Wind Farm within or adjacent to the West Clare Uplands IBA/West & North Clare N-DIRBA, where more comprehensive hen harrier breeding surveys were undertaken, measures to mitigate potential effects were implemented, including creation of a compensatory foraging area (18.4 ha). For most of the operational wind farms in the region, bird strike monitoring was often not a condition of consent and if undertaken, the reports are rarely publicly available.

Given the complexity of the task, an additive approach was not attempted for the proposed development, as it would only provide the crudest assessments for potential cumulative effects due to collision risk. As outlined at the outset of this section, the core of turbines potentially affecting the hen harrier population of the West Clare Uplands IBA/West & North Clare N-DIRBA are over 8 km from the proposed development at Cloonkett. Based on the information available in the Crossmore Wind Farm EIS and additional (December 2020 to May 2021) surveys, significant cumulative impacts are not anticipated. Therefore, based on separation distances from developments closer to the IBA/N-DIRBA, it is reasonable to conclude that there will be no in-combination effects.

As set out in the EIAR, Vol. II: Chapter 9 - Biodiversity under Section 9.7, mitigation measures are proposed that ensure collision risk will remain below acceptable levels for the proposed development. **Therefore, notwithstanding accepted difficulties in conducting cumulative collision risk assessment, with mitigation measure in place for the proposed project and other sites in the wider area, it can be concluded that predicted collision risk for the proposed project, will not act in-combination with other developments and therefore there will be no significant cumulative population level effects due to combined collision risk.**

Furthermore, this conclusion does not consider the positive effects that habitat enhancement measures, as proposed under the BMEP - Biodiversity Management and Enhancement Plan (EIAR, Vol. II: Appendix 9.5), will have on habitat availability for hen harrier prey species, as well as improvements to the quality of foraging habitats. For example, planting in riparian buffers within the Site (Appendix 9.5: BMEP - Section 4 including Sections 4.4.1.1, 4.4.2.1) will introduce/strengthen a scrubby linear feature, and an unintended consequence of this will be the creation of habitat along which hen harriers can hunt and ambush prey species. Measures detailed within the BMEP that will have general benefits for hen harriers and their prey are detailed under Sections:

- 4.4.1.1. Riparian Corridors management zones (management for water quality)
- 4.4.1.2. Unit 14 – Wet Grassland (management for waders)
- 4.4.1.3. Sustainable Drainage Systems (SuDS) (management for waders)
- 4.4.2.1. Riparian planting and livestock fencing
- 4.4.2.2. Grazing and livestock land management
- 4.4.2.3. Sustainable Drainage Systems (SuDs)
- 4.4.2.4. Surface water (wader scrape) features
- 4.4.2.6. Rush management

3. PRESCRIBED BODY – DEPARTMENT OF HOUSING, LOCAL GOVERNMENT AND HERITAGE

3.1 Introduction

This section of the Report responds to the submission (dated 26th November 2025) from the Development Applications Unit (DAU).

3.2 Submission Response

3.2.1 Item No. 1: Archaeology

The DAU submission states:

The Department advises that advance archaeological test excavation should be carried out in advance of any development to determine if previously unknown sub-surface archaeological features or deposits are present. If such material is present, then additional mitigation measures to ensure the preservation in situ or preservation by record (i.e. full archaeological excavation) of such discoveries will be necessary. The Department advises that this can be addressed by the inclusion of an appropriate condition, if the development is permitted.

The Department, therefore, advises that the following should be included as a condition of any grant of permission. Note these recommended conditions align with Sample Conditions C3, C5 and C6 as set out in OPR Practice Note PN03: Planning Conditions (October 2022) with appropriate site-specific additions/adaptations based on the particular characteristics of this development and informed by the findings of the EIAR.

3.2.1.1 Response

The Applicant acknowledges the DAU submission and would accept a condition of planning to carryout pre-construction archaeological test excavations to determine if any previously unknown sub-surface archaeological features or deposits are present and implement additional mitigation measures as appropriate.

3.2.2 Item No. 2: Nature Conservation - Ornithology (NTS)

The Department notes that the EIAR and NIS tend to summarise ornithological findings in a manner that does not reflect the extensive species assemblage identified in the appendices. Seventy-four bird species were recorded, including 9 red-listed species, 23 amber listed species and 8 Annex I species. The ecological value of the site and surrounding wetland/lake network is, therefore, significantly greater than suggested in the Non-Technical Summary.

3.2.2.1 Response

The Applicant acknowledges that the Non-Technical Summary, which was prepared in accordance with relevant best-practice guidance, does not provide the full details of the ornithological impact assessment carried out for the proposed development and by definition is a summation of the core ornithological issues. The Applicant reconfirms that a fully robust ornithological impact assessment is provided within both the NIS and the EIAR, Vol. II: Chapter 9: Biodiversity and associated technical ornithological reports, contained within the EIAR, Vol III: Appendix 9.3: Avian Ecology Report.

Further to this observation, the Department is of the opinion that the EIAR and NIS summarise the ornithological findings in a manner that does not reflect the extensive avian assemblage identified in the appendices and highlight that 74 bird species were recorded over the baseline study. This is addressed in the following section titled avian assemblage. The next section covers the ecological evaluation of the wetland/lake network surrounding proposed development for birds.

Avian assemblage

In relation to the list of bird species and associated conservation status recorded for the proposed development site, care is required in interpretation and assuming that all the species are regularly occurring is misleading. An appraisal is required at the individual species level or for species assemblages, e.g. wintering waterbird assemblage, to determine the importance of the area for each species or species assemblage recorded and to assess the potential for likely significant effects due to wind farm development. This assessment is provided in the EIAR, Vol. II: Chapter 9 - Biodiversity and Vol. III: Appendix 9.3 - Avian Ecology.

Six of the eight Annex I species listed that were found not to be regularly occurring species in the area of the proposed development over the course of a scientifically robust 3-year ornithological study. Therefore, the proposed development site was assessed as not important for these species, and taking into consideration additional factors like seasonality of occurrence and habitat availability, any potential for likely significant effects could be excluded for the following species: peregrine (1 observation), merlin (8 observations), white-tailed eagle (4 observations), whooper swan (1 observation of 3 birds), little egret (2 observations) and mediterranean gull (1 observation of 2 birds). Furthermore, the conservation status of peregrine and little egret is favourable (green-listed) in Ireland (Gilbert et al., 2013)[30] and the integrity of the national population is not threatened by wind farm developments. An omission of osprey, as species listed on Annex I of the EU Birds Directive was noted; however this does not alter the assessment for this species, which was only recorded commuting through the area on one occasion over the 3-year study. In addition, there is no suitable foraging or nesting habitat for this species within the proposed development site and it can be objectively concluded that the site is not important for osprey.

Similarly, the occurrence of some red listed species was low, including lapwing (1 observation) and no breeding woodcock were observed (the red-listed component of the population) during dusk surveys, only wintering birds were recorded - the conservation status for which has not been assessed (Gilbert et al., 2013). Red and amber listed passerines, such as widely distributed and commonly occurring species like meadow pipit, grey wagtail, skylark and willow warbler are not generally considered to be significantly impacted by wind farms (SNH, 2017 updated NatureScot 2025)[31].

Ecological value of the site and surrounding wetland/lake network for birds

The DAU considers that the Non-Technical Summary does not fully account for the "*ecological value of the site and surrounding wetland/lake network*". The Applicant reconfirms that a fully robust ornithological impact assessment is provided within both the NIS and the EIAR, Vol. II: Chapter 9: Biodiversity and associated technical ornithological reports, contained within the EIAR, Vol III: Appendix 9.3: Avian Ecology Report.

[30] Gilbert, G., Stanbury, A., & Lewis, L. (2021). Birds of Conservation Concern in Ireland 2020 – 2026. *Irish Birds*, 43, 1–22.
[31] SNH (2017, updated NatureScot 2025). *Recommended Bird Survey Methods to Inform Impact Assessment of Onshore Wind Farms*. SNH Guidance Note. Accessed via: https://www.nature.scot/doc/recommended-bird-survey-methods-inform-impact-assessment-onshore-windfarms

As a point of clarification regarding the ornithological impact assessments for wetland habitats and waterbirds, this assessment is summarised in following sections. This does not add any new information, nor does it change the overall assessment for the site, in that the Site, including the 2 km turbine buffer, are of relatively low importance in terms of wintering waterbird populations. This is reflected by low levels of wetland birds activity recorded, and the limited availability of suitable habitats. The ecological link between the proposed development site and the surrounding wetlands, was found to be weak, especially with the River Shannon and River Fergus River Estuaries SPA.

As detailed in the NIS and EIAR, in terms of wintering waterbird populations the estuaries of the River Shannon and River Fergus are the most important wetlands in the wider area surrounding the proposed development. These estuaries are designated within a single Special Protection Area (SPA) - the River Shannon and River Fergus Estuaries SPA (Site code: 004077). This SPA is internationally important, supporting an assemblage of over 20,000 wintering waterbirds and is the only coastal wetland site in Ireland regularly supporting > 50,000 birds. In addition to wintering waterbirds, the SPA supports a breeding colony of cormorants at Bunlicky Lake, near Limerick City. Excluding the turbine delivery route, the SPA lies approximately 4 km from the proposed wind farm site at its closest point, with the estuary of the River Fergus being 4-5 km to the east, the Shannon Estuary lies 4-7 km to the south and the estuaries of the Cloon River and Crompaun River are 7-8.5 km to the southwest. The ornithological desk-study (EIAR, Vol. III: Appendix 9.3 under Section 2.1 and Section 2.2.2) determined that the SPA was in the potential zone of influence.

As provided in Vol. VI: NIS: Section 4.5 - Table 5 (p. 48) there are 21 species of wintering waterbird listed as Special Conservation Interests (SCIs) for the River Shannon and River Fergus Estuaries SPA. The NIS and EIAR, include the original baseline populations for each SCI bird population and more recent population counts when available. The size and intricate nature of this SPA means representative coverage cannot be achieved via land based counts alone and aerial surveys were undertaken to bolster coverage. Therefore, the published count data for the SPA, should be regarded as indicative. Two assessment periods are presented in the NIS and EIAR, including:

- The baseline populations reported for the SPA, based on 5-year mean peak counts between 1995-96 to 1999-00 (Site Synopsis - NPWS, 2012)[32], as given in the EIAR, Vol. III: Appendix 9.3 Section 2.1
- I-WeBS count data provided by BirdWatch Ireland for the period 2017/18 to 2022/23 with aerial survey data for 2020/20 (Burke et al., 2026)[33]. The I-WeBS data received is available in the EIAR, Vol. III: Appendix 9.3 - Appendix II

In relation to wintering waterbirds, NatureScot (formerly SNH) guidelines on "Recommended bird survey methods to inform impact assessment of onshore wind farms" (SNH, 2017 as updated NatureScot, March 2025)[34] states:

[32] NPWS (2012). Conservation Objectives: River Shannon and River Fergus Estuaries SPA 004077. Version 1.0. NPWS, DoAHG, Ireland. Accessed via: https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO004077.pdf - including support documents in Appendix 8 and Appendix 9

[33] Burke, B., Kennedy, J., Gadd, R., Fitzgerald, N., Lynch, A., Caffrey, B., Walsh, A., Murray, T. & Kelly, S.B.A. (2026). The status and distribution of wintering waterbirds in Ireland in 2023: results from the Irish Wetland Bird Survey (I-WeBS). *Irish Wildlife Manuals*, No. 162. NPWS, DoHLGH, Ireland.

[34] Scottish Natural Heritage - SNH (2017), as updated NatureScot (2025) accessed via: https://www.nature.scot/doc/recommended-bird-survey-methods-inform-impact-assessment-onshore-windfarms

"During the non-breeding period, assemblages of wintering waders and waterfowl as well as coastal gull and tern roosts may occur in areas where wind farms are proposed. Surveys should focus on identifying such assemblages, especially those within 2 km of any development. Wintering waterbirds……may show regular flight routes to and from nocturnal roosts, as well as movements associated with tidal cycles, and these must be factored into survey design if they are likely to use or pass through the survey area."

In areas where migratory swans and geese are known to roost and foraging, the NatureScot guidelines emphasise the importance of monitoring these features, including the movement between foraging areas and roost sites. As these species are considered particularly sensitive to disturbance and displacement, it is recommended that survey areas extend to 500 m from the proposed development site and for the roost sites of geese, in particular this should be extended further, out to 1 km or more if significant flight activity is anticipated.

In order to investigate the potential ornithological importance of the proposed development site for wintering waterbirds in relation to the River Shannon and River Fergus Estuaries SPA and other nearby waterbodies, in particular Gortglass Lough and Cloonsnaghta Lough, a series of wider area waterbirds counts were undertaken to map the distribution and numbers of birds occurring across the wider area over the winter. Selected sections along the northern shore of the Shannon and Fergus estuaries were covered out to approximately 10 km from the proposed development. Waterbird activity within the proposed development was measured by undertaking a programme of VP watches, which were also informed by site walkovers.

Methodology, coverage and results are summarised in the EIAR, Vol. II, Chapter 9: Biodiversity, with details provided in EIAR, Vol. II, Appendix 9.3 under the following sections:

- Section 4 Methodology, including survey effort:
- Section 4.1: VP watches, including Appendix II, Appendix IV
- Section 4.2: Collision Risk Modelling, including Appendix XVII
- Section 4.3: Site walkover surveys for breeding birds, including Appendix V
- Section 4.4: Wider area breeding raptor surveys, including Appendix VI
- Section 4.5: Winter walkover surveys within 500 m turbine buffer, including Appendix VII
- Section 4.6: Winter hinterland surveys within 5 km turbine buffer, including Appendix VIII
- Section 4.7: Waterbird surveys within 10 km turbine buffer, including Appendix IX
- Section 4.8: Hen harrier nest searches and roost searches, including Appendix X
- Section 5 Survey results:
- Section 5.1: VP watches (p. 23), including Appendix XI
- Section 5.2: Breeding bird surveys (p. 29), including Appendix XII
- Section 5.3: Hinterland/breeding raptor surveys (p. 40), including Appendix XIII
- Section 5.4: Winter walkover surveys within 500 m turbine buffer (p. 48), including Appendix XIV
- Section 5.5: Hinterland walkover surveys within 5 km turbine buffer (p. 54), including Appendix XV
- Section 5.6: Winter waterbird surveys within 10 km turbine buffer (p. 55), including Appendix XVI
- Section 5.7: Hen harrier nest searches (p. 62)
- Section 5.8: Hen harrier roost watches (p.62)
- Section 5.9: Summary Results for Collision Risk Model (p. 64), including Appendix XVII

For the purposes of clarification, the pertinent results have been reproduced in following tables, which are included at the end of this section:

- Table B.1: Provides a list of all the wetland bird species recorded within the 500 m turbine buffer during VP watches, as part of the 3-year baseline study for the proposed development, and gives details on numbers, frequency of occurrence, type of site utilisation, potential habitat availability and predicted collision risk.
- Table B.2: Provides a list of all the wetland bird species recorded on winter transects covering 500 m turbine buffer, as part of the 3-year baseline study for the proposed development, and gives details on numbers recorded (Note: These are counts provide broad coverage of the buffer (500 m), sampling the different habitat types to determine the presence of species and should not be interpreted as full site counts).
- Table B.3: Provides the combined waterbird counts for Cloonsneachta Lough and Gortglass Lough on selected dates over the the 3-year baseline study for the proposed development.

The site scoping study determined that apart from bog habitats, there is limited availability of wetland habitats within the 500 m turbine buffer and there are no large open bodies of water capable of supporting significant numbers of waterbirds. Based on 6-six inch mapping there was at one time a small waterbody towards the east side of the Cloonkett townland. Site inspections found that while ground water does still pool here, the area has become totally overgrown and willow scrub is encroaching. There are two small streams (Carrowreagh East [EPA 27C49] and Cloonkett [EPA 27C12]) flowing west through the proposed development area, which based on OPW flood mapping, are not liable to regular or significant flooding. These streams only offer a limited amount of suitable waterbird habitat, as the banks are relatively channelised and exposed, and not having the emergent vegetation, which can offer cover for species like duck. Small areas of standing/slow flowing water are available in drains, pools and wetter depressions associated with agriculture, forestry, turf extraction and historical quarrying activities across the site. A range of raised bog habitat and associated wet grasslands provide the largest expanses of wetland habitats, including a spring that maintains an area of quaking bog. These habitats were considered likely to support a wintering and breeding snipe population, and could also offer some potential foraging habitat to other wader species, which travel inland from the coast, such as golden plover and curlew. In terms of habitat condition, significant areas of bog were not grazed and had developed a rank sward, which limited the overall suitability of some areas. This type of patchy boggy agricultural habitat regime is widespread and typical of the landscape backing the coast of the Loop Head peninsula.

As detailed in EIAR, Vol. II, Chapter 9: Biodiversity under Section 9.3.3 - Table 9.18, the desk study determined that apart from the Shannon and Fergus estuaries, there are no other wetlands within 6 km of the proposed development reported as supporting notable numbers of wintering waterbirds (Crowe, 2005, Lewis et al., 2019, Burke et al., 2026)[35],[36],[37]. As established in EIAR, Vol. III: Appendix 9.3 under Section 2.2, there were also no known whooper swan or migratory goose roosting or foraging sites documented for the area within the 2 km turbine buffer (Boland & Crowe, 2008, Crowe et al., 2015, Burke et al., 2021, Fox et al., 2021, Burke et al., 2022)[38],[39],[40],[41],[42]. According to Burke et al. (2022), all the greylag geese flocks in Clare are of feral origin, with a peak count of 218 birds given for the Shannon and Fergus estuaries. In Ireland, the feral greylag goose population is classed as an invasive species listed on the Third Schedule of the European Communities (Birds and Natural Habitats) Regulations of 2011.

As described in the EIAR, Vol. III: Appendix 9.3 under Section 2.2.2 Gortglass Lough, Cloonsnaghta Lough and Lough Athoga are the only open waterbodies within the 2 km turbine buffer and are located to the south of the proposed development. These loughs are not covered as part of the Irish Wetland Bird Survey (I-WeBS)[43], which during early site scoping indicated that these waterbodies were unlikely to support notable waterbird populations. The adjoining, Gortglass Lough and Cloonsnaghta Lough have proposed Natural Heritage Area (pNHA) status, the primary feature of interest is the fish species, Arctic char (Salvelinus coli) and the loughs are noted as a good example of acid loughs, with typical surrounding vegetation including small blanket bog and species rich wetland (Goodwillie, 1972, Clare County Development Plan 2023-2029). The site description (Goodwillie, 1972)[44] notes the occurrence of mute swan, moorhen, snipe and water rail, which is aligned with the species recorded during the 3-year ornithological study.

[35] Crowe, O. (2005). *Ireland's Wetlands and their Waterbirds: Status and Distribution*. BWI, Co. Wicklow.
[36] Lewis, L. J., Burke, B., Fitzgerald, N., Tierney, T. D. & Kelly, S. (2019). Irish Wetland Bird Survey: Waterbird Status and Distribution 2009/10-2015/16. *Irish Wildlife Manuals*, No. 106. NPWS, DoCHG, Ireland.
[37] Burke, B., Kennedy, J., Gadd, R., Fitzgerald, N., Lynch, A., Caffrey, B., Walsh, A., Murray, T. & Kelly, S.B.A. (2026). The status and distribution of wintering waterbirds in Ireland in 2023: results from the Irish Wetland Bird Survey (I-WeBS). *Irish Wildlife Manuals*, No. 162. NPWS, DoHLGH, Ireland.
[38] Boland, H. & Crowe, O. (2008). *An assessment of the distribution range of Greylag (Icelandic-breeding & feral populations) in Ireland*. Final BWI report to the NPWS and the NIEA. Accessed via: https://birdwatchireland.ie/app/uploads/2022/07/Greylag-Pink-footed-Geese-in-Ireland-2022-Report-Apppendices.pdf
[39] Crowe, O., McElwaine, J.G., Boland, H. & Enlander, I.J. (2015). Whooper *Cygnus cygnus* and Bewick's *C. columbianus bewickii* Swans in Ireland: results of the International Swan Census, January 2015. *Irish Birds* 10: 153–158
[40] Burke, B., McElwaine, J. G., Fitzgerald, N., Kelly, S. B. A., McCulloch, N., Walsh, A. J. & Lewis, L.J. (2021). Population size, breeding success and habitat use of Whooper Swan *Cygnus cygnus* and Bewick's Swan *Cygnus columbianus bewickii* in Ireland: results of the 2020 International Swan Census. *Irish Birds*, 45, 57-70.
[41] Fox, T., Francis, I., Norriss, D. & Walsh, A. (2021). *Report of the 2019/20 International census of Greenland white-fronted geese*. Greenland White-fronted Goose Study, Rønde, Denmark and Wexford, Ireland.
[42] Burke, B., Fitzgerald, N., Kelly, S. & Lewis, L.J. (2022). *Greylag and Pink-footed geese in Ireland 2017/18-19/20. Irish Wetland Bird Survey (I-WeBS) Report*. BirdWatch Ireland, Wicklow.
[43] Confirmed by map of I-WeBS sites accessed via I-WeBS Coverage mapviewer BirdWatch Ireland: https://bwi.maps.arcgis.com/apps/View/index.html?appid=1043ba01fcb74c78bc75e306eda48d3a
[44] Goodwillie, R. (1972). *Preliminary report on Areas of Scientific Interest in County Clare*. April 1972, An Foras Forbartha. Accessed via: https://www.npws.ie/sites/default/files/publications/pdf/Goodwillie_1972_ASI_Clare.pdf

Further inland from Cloonkett (> 3.5 km) there are a few small, thinly distributed waterbodies, including Ballydoolavaun Lough, Corraige Lough, Knocka Lough, Lough Achryane and Lough More, which were considered unlikely to attract significant numbers of waterbirds from the coast, with the possibility of generating movement of birds through the proposed development area. Likewise, between the 2 km turbine buffer and the estuaries of Shannon, River Fergus Cloon River and Crompaun River, there were only two small lough identified, including Ballyleann Lough (c. 2.5 km SE) and Effernan Lough (c. 4.5 km S). All these waterbodies were assessed as occurring beyond the zone of influence for potential disturbance to roosting migratory swans and geese. The Cloon River, is approximately 2 km west from the proposed development at its closest point. While the Cloon is not reported as being liable to regular or significant flooding, based on OPW flood mapping, the area supports some larger expanses of bog adjacent to the river, with smaller patches of fen type habitats, swamp, marsh and wet grassland with the potential to support waterbirds.

The River Shannon and River Fergus Estuaries SPA, is the only wetland site within the potential zone of influence of the proposed development that is covered by the I-WeBS. Given the relatively inland location of the proposed development and types of habitat available, it can be concluded that several of the waterbird species listed as SCIs of the SPA will not directly utilise the area and will be highly unlikely to regularly commute through the 500 m turbine buffer to move between coastal areas. The following species are predominately coastal and/or have specific habitat requirements that are not satisfied within the 2 km turbine buffer; and therefore, it can be objectively concluded beyond scientific doubt that SPA populations of following wintering waterbirds will not be affected by the proposed development:

- Swans, geese & ducks: light-bellied brent goose, shelduck, pintail, scaup
- Waders: grey plover, knot, bar-tailed godwit, greenshank

These eight species listed as SCI of the SPA were scoped out at an early stage in the ornithological impact assessment. Other waterbird species making up part of the SPA's wetland bird assemblage (NPWS, 2015)[45], which for the same reason, i.e. being predominantly coastal, can be excluded from more indepth assessment included (values in parentheses are the I-WeBS peak counts 2017-18 to 2022-23)[46]:

- Divers, grebes & sawbills: great northern diver (6), red-breasted merganser (20), red-throated diver (4)
- Swans, geese & ducks: pochard (23)
- Waders: oystercatcher (122), sanderling (27), turnstone (124)
- Kingfisher (2)

Based on habitat availability within the 2 km turbine buffer and/or behavioural traits, there was potential for the following 13 waterbird species listed as SCI of the SPA to occur:

- Cormorant
- Swans, geese & duck: whooper swan, shoveler, teal, wigeon
- Waders: black-tailed godwit, curlew, dunlin, golden plover, lapwing, redshank, ringed plover
- Gulls: black-headed gull

[45] NPWS (2015) Site Synopsis: River Shannon & River Fergus Estuaries SPA. Site Code: 004077. 30/05/2015, NPWS, DoAHG, Dublin. Accessed via: https://www.npws.ie/sites/default/files/protected-sites/synopsis/SY004077.pdf
[46] BirdWatch Ireland - data request for I-WeBS count sections - values do not include aerial counts and are underestimates of the whole SPA population. Data is present in the EIAR, Vol. III: Appendix 9.3 - Appendix II

A further 19 waterbird species regularly contributing to the SPA's wetland bird assemblage (NPWS, 2015) could potentially utilise habitats occurring within the 2 km buffer, including (values in parentheses are I-WeBS peak counts 2017-18 to 2022-23)[47]:

- Divers, grebes & sawbills: great crested grebe (19), little grebe (31)
- Swans, geese & ducks: mute swan (67), feral greylag goose (171), gadwall (99), mallard (119), tufted duck (66)
- Waders: snipe (93), whimbrel (2)[48]
- Herons: grey heron (12), little egret (12)
- Rails: coot (242), moorhen (33), water rail (5)
- Gulls: common gull (75), great black-backed gull (14), herring gull (262), lesser black-backed gull (372), mediterranean gull (3)

The results of the 3-year baseline study for the proposed development, as summarised in Table B.1 (waterbird observations recorded during VP watches), Table B.2 (waterbirds recorded during site walkovers) and Table B.3 (waterbird counts for Cloonsnaghta Lough and Gortglass Lough), determined that waterbird utilisation of the 500 m turbine buffer and 2 km turbine was notably low for most species, including species potentially associated with the SPA. The following waterbird species listed as SCIs of the SPA were not recorded within the 500 m or 2 km turbine buffers across all the surveys undertaken; and therefore, it could be objectively concluded that the proposed development would not adversely affect SPA populations of:

- Swans, geese & duck: shoveler
- Waders: black-tailed godwit, dunlin, redshank, ringed plover

The following species listed as SCIs of the SPA, were recorded within the study area at such low frequency over the 3-year study, that it could be objectively concluded that the proposed development would not adversely affect SPA populations of:

- Swans, geese & duck: whooper swan, teal
- Waders: lapwing

For **whooper swan**, over the 3-year study there was only one flight record of 3 birds commuting through the 500 m turbine buffer. A flock (9 birds) was recorded once in the wider area at Gortglas Lough. No roosts or foraging areas were identified within the 2 km turbine buffer and there were no regular flight paths between roosts and foraging areas identified.

For **teal**, over the 3-year study there was one flight recorded of 1 bird commuting through the 500 m turbine buffer and 4 birds were recorded during a winter site walkover. The streams and boggy drains/pools do provide some habitat for this species, but the limited extent means regular usage by larger numbers is unlikely. Wider area surveys detected moderate numbers in estuarine habitats associated with the SPA and teal were not recorded on the two closest waterbodies - Gortglass Lough & Cloonsnaghta Lough.

[47] BirdWatch Ireland - data request for I-WeBS count sections - values do not include aerial counts and are underestimates of the whole SPA population. Data is present in the EIAR, Vol. III: Appendix 9.3 - Appendix II
[48] Note: I-WeBS data will tend to underestimate whimbrel numbers, as surveys are typically not undertaken during spring passage (April/May)

For **lapwing**, over the 3-year study there was only one flight record of 1 bird commuting through the 500 m turbine buffer. Wider area surveys detected moderately sized flocks (peak counts of 44 to 129 birds) utilising the estuarine habitats associated with the SPA and lapwing were not recorded on the two closest waterbodies - Gortglass Lough & Cloonsnaghta Lough.

Based on the very low levels of recorded usage it can be objectively concluded that the proposed development site is not important for whooper swan, teal and lapwing; and therefore does not pose any risk to these species in terms of habitat loss, disturbance/displacement effects (including barrier effects) or collisions. **Therefore, the proposed development will not adversely affect SPA populations whooper swan, teal or lapwing.**

Only four of the 21 species listed as SCIs of the SPA, were recorded within the study area at higher frequency over the 3-year study, and therefore warranted further assessment to investigate whether the magnitude of any effects had the potential for significant (> 1%) population effects on the integrity of the SPA, including:

- Cormorant
- Curlew
- Golden plover
- Black-headed gull

For **cormorant**, there was no foraging observed within the 500 m turbine buffer and habitat availability was limited to two small streams that were assessed as largely unsuitable (too restricted or shallow) for this species. Single birds were only occasionally recorded on Gortglass Lough, and cormorants were more frequently encountered during counts covering the SPA. Therefore, no loss of habitat or disturbance/displacement effects are anticipated. Cormorant flight activity within the 500 m buffer was assessed as relatively low, with periodic commuting flights (17 observations over 3-year study) by small numbers (1-2 birds). Based on flight time in the collision risk zone, predicted collision risk (0.02 collisions per annum, < 1 collision over 40 years) was low and would have an imperceptible population level effect.

Based on the relatively low levels of recorded usage it can be objectively concluded that the proposed development site is not important for cormorant[49]; and therefore does not pose any risk in terms of habitat loss, disturbance/displacement effects (including barrier effects) and predicted collision risk is sufficiently low; so as to conclude that no significant population level effects are anticipated. **Therefore, the proposed development will not adversely affect SPA populations of wintering or breeding cormorant.**

[49] **Point of clarification**: Consideration was given to the breeding colony on Bunlicky Lake, located approximately 31 km from the proposed development, which is at the mean max (+sd) foraging range (33.9 km), as per NatureScot (2023)[A] and mean max foraging range (31.7 km), as per BirdLife International (2026), which also gives a mean (8.46 km) and max (50 km) range. Commuting activity through the proposed development site activity was very low and considering the favourable conservation status of this colony (Berrow et al., 2025) no adverse population level effects are anticipated.
[A] NatureScot (2023). *Guidance Note 3: Guidance to support Offshore Wind applications: Marine Birds -Identifying theoretical connectivity with breeding site Special Protection Areas using breeding season foraging ranges*. NatureScot, accessed via: https://www.nature.scot/doc/guidance-note-3-guidance-support-offshore-wind-applications-marine-birds-identifying-theoretical
[B] BirdLife International (2026). *Seabird Ecology and Foraging Range Database*. BirdLife International. Accessed via: https://data.seabirdtracking.org/dataset/2422, based on tracking 11 cormorants (male & female) in the Netherlands using GPS-loggers over the breeding season (2012), as published in Fijn, R. C., de Jong, J.W., Adema, J., van Horssen, P.W., Martin J.M. Poot, M.J.M., van Rijn, S. van Eerden, M.R. & Boudewijn, T.J. (2022). GPS-Tracking of Great Cormorants *Phalacrocorax carbo sinensis* Reveals Sex-Specific Differences in Foraging Behaviour. *Ardea*, 109(3), 491-505.
[C] Berrow, S. Keegan, E., O'Connor, I. & Le Méléder, A. (2025). Cormorants P*halacrocorax carbo* breeding in Special Protection Areas in the Shannon Estuary and adjacent waters. *Irish Birds* 47: 1-8

For **curlew**, the notably low level of flight activity recorded within the 500 m turbine buffer means the proposed development does not pose a measurable collision risk to curlew. In the wider area the estuarine habitats associated with the SPA were found to support the highest numbers of wintering curlew, with numbers regularly exceeding 100 birds. Away from the coast the frequency of occurrence and numbers of curlew was notably low over the winter. Across all the surveys there were no winter records of curlew within the 500 m turbine buffer, with closest records being small numbers occasionally recorded at Cloonsnaghta Lough, e.g. 3 birds in Jan-2023 (Table B.3). No curlew breeding activity was recorded within the 800 m turbine buffer and although there were birds recorded during the bird season, these were predominately recorded late in the summer (July/August) and were not attributed to any breeding attempts in the area. It is not uncommon for non-breeding birds to start congregating in the late summer. During wider area surveys covering the 2 km turbine buffer curlew were recorded late in the breeding season, with the highest numbers being a flock of 40 birds recorded flying N-S in late July[50].

It can be objectively concluded that the proposed development site is utilised to a very limited extent by non-breeding curlew late in the breeding season and these birds may be ecologically linked to the SPA. Based on the low levels of utilisation measured over the 3-year baseline study, over the winter in particular when no activity was recorded within the 500 m turbine, it is considered that there is no potential for likely significant effects to the SPA population and therefore, **the proposed development will not affect the integrity of the SPA in light of the conservation objectives pertaining to curlew.**

For **golden plover**, flights (13 observations over 3-year study) by moderate numbers (up to 120 birds) were recorded through the 500 m turbine buffer. A high proportion of the flight records were in April and were considered likely to be associated with relatively small, dispersed flocks on spring passage. Golden plovers were occasionally recorded on the ground in the 500 m turbine buffer. There is some habitat availability and away from the coast this species often utilises the bare expanses of peat exposed by turf extraction at raised bogs. The site of the proposed development does not provide any suitable breeding habitat for this upland breeding wader and the closest breeding sites are in expansive bogs of Connemara. Golden plovers are known to exhibit high levels of turbine avoidance and predicted collision risk, based on aggregated flight time within the buffer and applying 99.8% avoidance was found to be low, 0.03-0.09 collision per annum (1-4 collision over 40 years). Mortality at this rate would have an imperceptible population level effect. Wider area surveys detected small numbers in estuarine habitats associated with the SPA and golden plover were not recorded on the two closest waterbodies - Gortglass Lough & Cloonsnaghta Lough.

It can be objectively concluded that the proposed development site is utilised to a very limited extent by golden plover that may be ecologically linked to the SPA. Based on the low levels of utilisation measured over the 3-year baseline study, it is considered that there is no potential for likely significant effects to the SPA population and **therefore, the proposed development will not affect the integrity of the SPA in light of the conservation objectives pertaining to golden plover.**

[50] **Point of clarification**: Based on O'Donoghue et al. (2019) very few active curlew breeding sites were located in Co. Clare. The catastrophic declines exhibited by curlew across its Irish range means that it is unlikely that this species breeds in the area of interest, although patches of habitat potentially suitable for breeding curlew remain.
O'Donoghue, B., Donaghy, A. & Kelly, S. B. A. (2019). National survey of breeding Curlew in the Republic of Ireland, 2015–2017. *Wader Study* 126 (1) 43-48.

For **black-headed gull**, flights (21 observations over the 3-year study) by relatively small numbers (up to 41 birds) were recorded through the 500 m turbine buffer. Black-headed gulls are known to exhibit high levels of turbine avoidance and predicted collision risk, based on aggregated flight time within the buffer and applying 99.2% avoidance was found to be low, 0.05 collision per annum (2 collisions over 40 years). Mortality at this rate, if realised, would have an imperceptible population level effect. No activity was recorded in the 500 m turbine buffer during the core part of the breeding season, indicating that birds move to breeding colonies over this period and do not appear to venture towards the area of the proposed development[51]. Although 21 flights were observed, black-headed gulls were only observed during VP watches on 8 dates out of a total of 48 survey dates undertaken over three winters. In addition to periodic utilisation of the area, the numbers recorded were relatively small (max flock size 41 birds). About a third of the flights were associated with birds landing and foraging in improved grassland within or adjacent to the 500 m turbine buffer, with one observation associated with a small area of flooding. The remainder of the records were attributed to birds commuting/flying through the area. Improved grassland, associated with certain agricultural activities, including cutting silage and spreading slurry does provide foraging opportunities for this species within and adjacent to the 500 m turbine buffer. This type of habitat, subject to intensive grassland management practices, is widely available throughout the region and it is considered that any displacement effects will be imperceptible. In contrast to the relatively small flocks recorded within the 500 m turbine buffer, significantly higher numbers were recorded in the wider area especially within the estuarine habitats associated with the SPA. Numbers utilising Gortglass Lough & Cloonsnaghta Lough were low (1-2 birds) and often no gulls were present - highest count for these loughs was 27 birds (Table B.3).

It can be objectively concluded that the proposed development site is utilised to a very limited extent by wintering black-headed gulls that may be ecologically linked to the SPA. Based on the low levels of utilisation measured over the 3-year baseline study, it is considered that there is no potential for likely significant effects to the SPA population **and therefore, the proposed development will not affect the integrity of the SPA in light of the conservation objectives pertaining to black-headed gull.**

[51] **Point of clarification**: The closest black-headed gull breeding sites to the proposed development are on islands in the Fergus Estuary, which supported 78 AONs in 2022 and 74 AONs in 2024 (Le Méléder & Berrow, 2025)[A] - just below 1% of the national population, estimated at 7,810 pairs (Cummins et al., 2019)[B]. Birds breeding on these islands are within the potential zone of influence for proposed development, which is given as 18.5 km (max./mean max range) in NatureScot (2023)[C].

[A] Le Méléder, A. & Berrow, S. (2025). Estimates of breeding seabirds in the Shannon and Fergus Estuaries (2014 – 2024) obtained from boats and UAVs. *Irish Birds* 47: 9-20

[B] Cummins, S.,Lauder, C.,Lauder, A. & Tierney, T.D. 2019. TheStatus of Ireland's Breeding Seabirds: Birds Directive Article 12 Reporting 2013-2018. *Irish Wildlife Manuals* No. 114. NPWS, DoCHG.

[C] NatureScot (2023). *Guidance Note 3: Guidance to support Offshore Wind applications: Marine Birds - Identifying theoretical connectivity with breeding site Special Protection Areas using breeding season foraging ranges*. NatureScot, accessed via: https://www.nature.scot/doc/guidance-note-3-guidance-support-offshore-wind-applications-marine-birds-identifying-theoretical

In terms of **other waterbird species** that are not listed as SCIs of the River Shannon and River Fergus Estuaries SPA, but can be considered to contribute to the **wetland bird assemblage**, as listed in Table B.1 (VPs), Table B.2 (site walkovers) and Table B.3 (waterbirds counts at Gortglass Lough & Cloonsnaghta Lough), with the exception of wintering woodcock, the following 15 non-SCI waterbird species were recorded over the 3-year baseline study (numbers based on peak baseline count, with * indicating count recorded at Gortglass Lough & Cloonsnaghta Lough):

- Divers, grebes & sawbills: little grebe (18*)
- Swans, geese & ducks: mute swan (3, 4*), feral greylag goose (16*), mallard (10, 20*), tufted duck (4*)
- Waders: snipe (20), whimbrel (37), woodcock (1)
- Herons: grey heron (1, 2*), little egret (1)
- Rails: moorhen (4)*
- Gulls: common gull (1), herring gull (13), lesser black-backed gull (30), great black-backed gull (3)

For **woodcock** only wintering birds were recorded and no breeding territories were identified. It is anticipated that wintering birds will remain in the area, as woodland habitats will be retained throughout construction and operation and **no likely significant effects are anticipated**. In addition, habitat enhancement measures proposed in BMEP, including riparian corridor planting/fencing will increase cover for this species. Woodcock as a woodland species, does not contribute to the wetland bird assemblage of the River Shannon and River Fergus Estuaries SPA.

On the basis of not being recorded within the 500 m turbine buffer over the 3-year baseline and in view of limited habitat suitability, **potential for likely significant effects were excluded for little grebe, feral greylag geese, tufted duck**, and **moorhen**, as these species were only associated with Gortglass Lough and Cloonsnaghta Lough.

The utilisation **of Gortglass Lough and Cloonsnaghta Lough** by waterbirds will not be affected by the proposed development. Over the baseline period, these adjoining waterbodies supported up to 10 different species, with 5 of these species regularly occurring, including little grebe, mallard, moorhen, mute swan and feral greylag geese. Overall numbers on each count did not exceed 50 waterbirds (Table B.3), with feral greylags typically contributing a significant proportion. Therefore, based on relatively small numbers of birds supported, this wetland is classed as locally important and based on species composition it does not appear to function significantly as a subsidiary, ex-situ part of the River Shannon and River Fergus Estuaries SPA. Furthermore, no regularly utilised roost for potentially sensitive species, namely whooper swan was identified. The proposed development will not affect the structure and function of these loughs, as there is no hydrological connectivity and the infrastructural footprint of the development is > 500 m from both loughs at the closest point. This is considered to be beyond the maximum disturbance distances for most wintering waterbird species, as reviewed by Cutts et al. (2013)[52] and Goodship & Furness (2019, 2022)[53],[54]. **Therefore, it can be objectively concluded that the waterbird assemblage of Gortglass Lough and Cloonsnaghta Lough will not be adversely affected by the proposed development.**

In terms of site usage, on the basis of very limited occurrence within the 500 m turbine buffer over the 3-year baseline potential for significant effects were excluded for **mute swan** (2 observations of 1-3 birds), little egret (2 observations of single birds) and **common gull** (1 observation of 1 bird). For these three species **there is no measurable collision risk, there will be no loss of important foraging/roosting habitats and any disturbance/displacement will be acting on individuals/small numbers and no population level effects are anticipated.**

In terms of site usage, on the basis of low occurrence within the 500 m turbine buffer over the 3-year baseline potential for significant effects were excluded for great black-blacked gull (12 observations of 1-3 birds). In making this decision consideration was given to this species' favourable conservation status and no significant (> 1%) population level effects are anticipated.

For the six waterbird species moderate levels of activity were recorded within the 500 m turbine buffer, including mallard (88 observations), snipe (37 observations), whimbrel (37 observations), grey heron (40 observations) and two species of gull, including: herring gull (69 observations) and lesser black-backed gull (107 observations).

[52] Cutts, N., Hemingway, K. & J Spencer, J. (2013). *Waterbird Disturbance Mitigation Toolkit Informing Estuarine Planning & Construction Projects*. University of Hull, TIDE – Tidal River Development, Environment Agency. Accessed via: https://gat04-live-1517c8a4486c41609369c68f30c8-aa81074.divio-media.org/filer_public/8f/bd/8fbdd7e9-ea6f-4474-869f-ec1e68a9c809/11367.pdf

[53] Goodship, N. & Furness, R.W. (2019). Seaweed hand-harvesting: literature review of disturbance distances and vulnerabilities of marine and coastal birds. *Scottish Natural Heritage Research Report* No. 1096. Accessed via: https://www.nature.scot/sites/default/files/2019-04/Publication%202019%20-%20SNH%20Research%20Report%201096%20-%20Seaweed%20hand-harvesting%20-%20literature%20review%20of%20disturbance%20distances%20and%20vulnerabilities%20of%20marine%20and%20coastal%20birds.pdf

[54] Goodship, N. M. & Furness, R. W. (2022). Disturbance Distances Review: An updated literature review of disturbance distances of selected bird species. *NatureScot Research Report* No. 1283. Accessed via: https://www.nature.scot/doc/naturescot-research-report-1283-disturbance-distances-review-updated-literature-review-disturbance

Snipe

The likely significant effects for snipe are assessed in the following sections of the EIAR, Vol. II: Chapter 9 - Biodiversity:

- Section 9.3.5.1.7: Species account: Snipe
- Section 9.6.1.4.2: Snipe - Likely significant construction phase effects
- Section 9.6.2.3.4: Snipe - Likely significant operational phase effects
- Table 9.42 provides a summary of residual effects following implementation of proposed mitigation measures

Mitigation measures are required to offset any displacement effects on breeding and wintering snipe and predicted collision risk. Direct habitat loss will be offset by the Biodiversity Management and Enhancement Plan (BMEP) outlined in Section 9.10.

Grey heron

The likely significant effects for grey heron are assessed in the following sections of the EIAR, Vol. II: Chapter 9 - Biodiversity:

- Section 9.3.5.1.11: Species account: Grey heron
- Section 9.6.1.4.4: Grey heron- Likely significant construction phase effects
- Section 9.6.2.3.6: Grey heron - Likely significant operational phase effects
- Table 9.42 provides a summary of residual effects following implementation of proposed mitigation measures

Herring gull

The likely significant effects for herring gull are assessed in the following sections of the EIAR, Vol. II: Chapter 9 - Biodiversity:

- Section 9.3.5.1.14: Species account: Herring gull
- Section 9.6.1.4.7: Herring gull - Likely significant construction phase effect
- Table 9.42 provides a summary of residual effects following implementation of proposed mitigation measures
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Lesser black-backed gull

The likely significant effects for lesser black-backed gull are assessed in the following sections of the EIAR, Vol. II: Chapter 9 - Biodiversity:

- Section 9.3.5.1.13: Species account: Lesser black-backed gull
- Section 9.6.1.4.6: Lesser black-backed gull - Likely significant construction phase effects
- Section 9.6.2.3.8: Lesser black-backed gull - Likely significant operational phase effects
- Table 9.42 provides a summary of residual effects following implementation of proposed mitigation measures

Only an abridged impact assessment was conducted for mallard and whimbrel, as these species were not selected as Important Ecological Features. For mallard this was due the low numbers of birds recorded, although observations were relatively high. For completeness, a full assessment has been undertaken and is included below.

Whimbrel

The rationale for excluding whimbrel as an Important Ecological Feature was justified on the basis of species' favourable - green listed conservation status. A total of 37 whimbrel observations were recorded during VP watches, with numbers ranging between 1 and 43 birds, totalling 90,805 aggregated flight seconds occurring within the collision risk zone, with all observations limited to late April/early May. Whimbrels do not breed in Ireland, they are spring and autumn passage migrants, with very limited numbers over wintering (Lewis et al., 2019). Much of the movement of birds on spring passage happens along the coast and inland records are less common. Given the relatively high flight seconds and short period over which the spring passage occurs the outputs from the collision risk model were very high, predicting between 1.03 and 2.66 collisions per year. It is considered that these outputs are several magnitudes too high and this level of turbine mediated morality would be highly unlikely to occur in reality. The result is considered to be an aberration, in part, caused by the application of default avoidance (98%) in the modelling for whimbrel. An avoidance rate inline with that applied for swans (0.995) or geese (0.998) would be more appropriate and would lower predicted levels of collision. For whimbrels, it is considered that potential for collision risk will be minimal for this species, as they are strong and agile in flight. Likewise, no significant effects are anticipated due to habitat loss and/or displacement.

Mallard - ornithological impact assessment

For mallard, the 500 m turbine buffer recorded utilisation during both the breeding and non-breeding season, by small numbers (1-10 birds). Streams, drains and pools within the 500 m turbine buffer all provide small areas of habitat for this species and larger numbers are considered unlikely to occur, unless temporarily when captive reared birds are released for shooting. Activity observed over the breeding season indicated that small numbers were likely to be nesting at low densities.

Based on an all-Ireland breeding population of 15,400 pairs (NPWS, 2019), the 1% threshold for national importance is estimated at 154 pairs, with 280 birds given as 1% national threshold for wintering populations. Based on the low numbers recorded, the proposed development was assessed as supporting a population of locally (higher value) importance. Mallard has an unfavourable - amber listed, conservation status and therefore, based on the determining factors of avian sensitivity set out in Percival (2003) are classed as having low sensitivity to wind farm development (Table 9.12 in EIAR, Vol. II: Chapter 9 - Biodiversity).

It is considered unlikely that mallard will be adversely affected by construction activities, as foraging and nesting habitat is associated with the cover along streams/drains, which is largely avoided by the footprint of the proposed development. Given the low numbers of mallard recorded and avoidance of favoured habitats during construction, combined with the short duration of works, no significant (>1%) population level effects are anticipated for mallard. Based on Percival (2003) - see Table 9.12, Table 9.13, Table 9.14, Table 9.15 in EIAR, Vol. II: Chapter 9 - Biodiversity, **taking a low sensitivity for mallard and a negligible: < 1% magnitude effect results in an assessment of not significant.**

The focus of mallard activity within the proposed development site was associated pools, ditches, drains and streams. The footprint of the site infrastructure has been designed to avoid any substantial long-term loss of wetland habitats likely to be utilised by mallard. **No likely significant effects are anticipated to occur as a result of long-term habitat loss.** Proposed habitat enhancement measures detailed in the BMEP will benefit mallard habitat in the BMEP lands.

In terms of **operational disturbance**, a review by Hötker (2017) classes duck species as one of the species groups most affected by displacement due to operational turbines and suggests that they might abandon suitable habitat within or close to a wind farm or use it less frequently than they would in the absence of the wind farm. A study in the USA (Loesch et al., 2013) investigating breeding densities of dabbling duck, including mallard, at onshore wind farm sites vs control sites, found that wetlands associated with wind farm sites, although not totally abandoned, were utilised at reduced densities by breeding dabbling ducks, averaging out at about a 20% decrease, with a maximum effect of 56% reported. This is supported by three post-construction monitoring studies in the UK (Percival et al., 2009a, 2011b, 2015a) where median distances from mallard nest locations to the closest turbine were analysed and showed an increase in median values post-construction, suggestive of the breeding population shifting further away from proposed turbines. This result was not ubiquitous for all the post-construction breeding seasons monitored and there was a high degree of variation in nesting locations between years, with the closest distance not changing significantly and mallards attempting to breed within c. 20 m of a turbine.

In terms of effects on wintering mallard, a post-construction monitoring study in The Netherlands (Winkelman, 1992) found evidence of decreased occurrence of mallard out to 300 m from the wind farm. A Chinese study (Zhao et al., 2020) found that species of wintering duck, including mallard, tended to occupy areas further away from turbines and results were considered indicative of turbine avoidance. However, displacement effects were not fully tested and there were additional factors affecting habitat selection, including disturbance from other forms of human activities and overall habitat availability.

As reviewed in Goodship & Furness (2022), mallard are considered a species that readily habituate to human activity, especially if the source of disturbance is predictable, and the review notes that Platteeuw & Henkins (1997) recorded mallard foraging, loafing and possibly breeding within 50 m of frequently used navigation routes and close to harbours. There is evidence that this level of habituation translates to turbines, as recorded by Percival et al. (2015a) where mallard nested within c. 20 m of a turbine in the second breeding season after construction and within 60 m in the two subsequent seasons. In summary, current research indicates that there is a level of displacement to breeding and wintering mallard caused by operational turbines; however, information characterising the likely magnitude of displacement effects is deficient.

Based on overall low sensitivity to disturbance effects and evidence of habituation to predictable human activity/associated infrastructure, applying a precautionary approach to the assessment, it is anticipated that there is potential for some slight (EPA, 2022) disturbance effects on wintering and breeding birds that could result in temporary to short-term (EPA, 2022) displacement effects on a population of local (higher value) importance (NRA, 2009). There will be no significant (> 1%) population level effects at a national or county (regional) scale and effects will be expressed on the local population. Based on Percival (2003) - see Table 9.12, Table 9.13, Table 9.14, Table 9.15 in EIAR, Vol. II: Chapter 9 - Biodiversity, **the magnitude of effect is assessed as negligible: <1% and therefore, taking a low sensitivity for mallard results in an assessment of not significant for operational displacement effects. Therefore, no likely significant effects are anticipated.**

Mallard, probably as result of being a widespread, common species inhabiting a range of habitats and possibly exhibiting lower sensitivity to the displacement effects of wind farms, are one of the most regularly reported waterbird species for turbine collisions (Musters et al., 1996, Erickson et al., 2001, Grünkorn et al., 2016, Dürr, 2023). Based on flight time within the 500 m turbine buffer, predicted collision risk was 0.05 to 0.08 collision per annum, equating to 2 to 3 birds over the 40 year operational lifespan of the proposed development. For a quarry species, like mallard which is relatively widespread and has a high fecundity, this level of turbine mediated mortality does not pose any significant (> 1%) population-level risks to this species. Based on Percival (2003) - see Table 9.12, Table 9.13, Table 9.14, Table 9.15 in EIAR, Vol. II: Chapter 9 - Biodiversity, **the magnitude of effect is assessed as negligible: < 1% and therefore, taking a low sensitivity for mallard results in an assessment of not significant for collision risk. Therefore, no likely significant effects are anticipated.**

Table B.1: Wetland bird species recorded during VP watches

Species SCI = Special conservation Interest for SPA	No. of flight observations	No. of birds	Foraging in 500 m buffer	Commuting through area	Habitat availability	Collisions over 40 years Yr-1	Yr-2	Yr-3
Unfavourable conservation status - Red listed								
Curlew[SCI]	10	1-20	Occasional	Yes	Yes	No measurable collision risk		
Golden plover[SCI]	13	up to 120	Occasional	Yes	Yes	-	3.6	1.2
Lapwing[SCI]	1	1	No	Yes	Yes	No measurable collision risk		
Snipe	37	1-20	Yes	Yes	Yes	-	6.8	2.8
Woodcock [winter not red listed]	2	1	Yes - winter	No	Yes	Nocturnal		
Unfavourable conservation status - Amber listed								
Black-headed gull[SCI]	21	1-41	Yes	Yes	Yes	-	2.0	-
Common gull	1	1	No	Yes	Yes	No measurable collision risk		
Cormorant[SCI]	17	1-2	No	Yes	No	-	0.8	0.8
Herring gull	69	1-13	No	Yes	Yes	-	0.4	3.2
Lesser black-backed gull	107	1-17	Occasional	Yes	Yes	0.4	1.6	6.4
Mallard	88	1-10	Yes	Yes	Yes	3.2	2.4	2.0
Mute swan	2	1-3	No	Yes	No	No measurable collision risk		
Teal[SCI]	1	1	No	Yes	Yes	No measurable collision risk		
Whooper swan[SCI]	1	3	No	Yes	No	No measurable collision risk		
Favourable conservation status - Green listed								
Great black-backed gull	12	1-3	No	Yes	Yes	-	-	0.4
Grey heron	40	1	Yes	Yes	Yes	1.2	2.4	-
Little egret	2	1	V. occassional	Yes	Yes	No measurable collision risk		
Whimbrel	37	1-43	On passage	Yes	Yes	-	106.4	41.2

Table B.2: Waterbirds recorded on winter transects cover 500 m turbine buffer

Species	Oct-2021	Nov-2021	Mar-2022	Nov-2022	Jan-2023	Mar-2023	Oct-2023	Dec-2023	Feb-2024
Mallard			1			3	3	4	7
Teal[SCI]						4			
Snipe		2				1	2	2	8
Woodcock									1

Table B.3: Combined waterbird counts for Cloonsnaghta Lough and Gortglass Lough

Species	Jan-2022	Feb-2022	Mar-2022	Sep-2022	Oct 2022	Nov-2022	Dec-2023	Jan-2023	Feb-2023	Mar-2023
Black-headed gull[SCI]						5		2	27	
Cormorant[SCI]				1	1			1		
Curlew[SCI]								3		
Grey heron										2
Little grebe	4	3	2	14	18	3	12	13	3	3
Mallard	20	5	5	7	14		14	12	5	9
Moorhen	1	1		4			3	1		
Mute swan	4	1	2	2	4	1	1	1	2	3
Tufted duck	4			1						
Feral greylag goose	16	11	11	16	12		13	13		11
Totals	**44**	**21**	**20**	**35**	**49**	**9**	**43**	**46**	**37**	**28**

3.2.3 Item No. 3: Nature Conservation - Ornithology (Hen Harrier)

The DAU submission continues:

With regard to Hen Harrier, the Department notes that 65 observations were recorded over the study period, with activity documented during VP watches, walkovers and wider area surveys. The appendices indicate that the site is considered of national importance for this species and that further assessment is required. Despite this,. the EIAR concludes that impacts are negligible due to the absence of a confirmed nest. The Department questions this conclusion. The absence of dawn/dusk surveys in 2021 and 2022 and the limited nest search effort (2023 only), means that breeding attempts cannot be ruled out and clarification should be sought on this.

3.2.3.1 Response

The DAU requires clarification that the ornithological survey effort employed was sufficient to determine the breeding status of hen harrier within 2 km of the proposed development. **Please refer to response to Clare County Council submission**, above specifically Section 2.2.7 titled Hen harrier impact assessment under the Applicant's response to Clare County Council submission. Clarification is provided in Point 1 through to Point 4 on the status of breeding hen harrier in the region and how this relates to the appropriate level of survey effort and the conclusions reached in the EIAR. The salient points highlighted, include:

The desk-based study investigating historical hen breeding distribution in the region and the surveys effort employed to cover the 500 m turbine buffer and wider area (2 km turbine buffer), including habitat suitability assessment are sufficiently robust to allow the ecology team for the Applicant to objectively conclude, without doubt, that it is unlikely that hen harriers have attempted to breed within 3 km (minimum) of the proposed development in the last 10-20 years, with sufficient regularity for any part of the 2 km turbine buffer to be considered a traditional hen harrier breeding site (See above Section 2.2.7, Point 1 to Point 4).

The measured significant drop off in hen harrier activity over the breeding season that has been observed within the 500 m turbine buffer and 2 km turbine buffer over three and two breeding seasons, respectively, provides a strong indication that hen harriers do not breed within the 2 km turbine buffer and it can be objectively concluded, without doubt, that the proposed development is not within the core breeding season foraging of any pairs, and it is also reasonable to conclude, based on the scientific evidence presented, that proposed development is beyond the zone of influence of any pairs, most probably breeding > 5-6 km away to the north of the site within the West & North Clare non-designated important regional breeding area (N-DIRBA) for hen harriers.

Taken at face value 65 observations over three years may appear to be representative of a moderate level of activity across the site. It is important to contextualise this value in relation to survey effort and to understand that some of these observations will involve the same bird recorded multiple times over the same VP watch. The treatment of flight data within the collision models is designed to extrapolate the collision risk across the period of time monitored and control (weight) for duplication in survey effort, e.g. caused by overlapping viewsheds. Over the 3-year study out of 101 days when VPs were undertaken (amounting to 1,064 hours), hen harriers were recorded on 35 dates (amounting to 15,500 seconds, equivalent to 4.3 hours). Examination of the temporal distribution of hen harrier observations recorded during VP watches (EIAR: Vol III: Appendix 9.3: Table 26, Table 28, Table 30) finds that the majority of the observations are recorded outside the breeding season, with a total of 35 observations (recorded on 26 dates) attributed to the non-breeding season, and significantly fewer attributed to the breeding season, 23 observations (recorded on 16 dates). Further analysis, also shows that the majority of the observations recorded over the breeding season were actually birds foraging through the site later in the summer (July, August, September), when pairs have either failed or have fledged young and are starting to disperse away from breeding sites. The majority of observations (75%) were males, which are smaller and more agile than females (Nieboer, 1973, Schipper et al., 1975, Vincheuski, 2019 in McCarthy, 2022)[55,56,57,58].

[55] Nieboer, E. (1973). *Geographical and Ecological Differentiation in the Genus Circus*. Ph.D. Thesis, Vrije Universiteit Amsterdam.
[56] Schipper, W. J. A., L. S. Buurma, and P. Bossenbroek (1975). Comparative study of hunting behaviour of wintering Hen Harriers Circus cyaneus and Marsh Harriers Circus aeruginosus. *Ardea* 63: 1-29.
[57] Vincheuski, D. (2019). *Differences in hunting between wintering males and females of Hen Harrier in Belarus*. International Hen Harrier and Short-eared Owl meeting 2019, 20th -22nd March. Groningen, The Netherlands.
[58] McCarthy, A. (2022). *Seasonal Ecology and the Conservation of Hen Harriers (Circus cyaneus) in Ireland.* Ph.D. Thesis, School of Biological, Earth & Environmental Sciences, University College Cork. Accessed via: https://www.ucc.ie/en/media/research/planforbio/forestecology/AlanMcCarthy_PhDthesis_2022.pdf

For hen harrier, collision risk is assessed in the EIAR, Vol II: Chapter 9: Biodiversity, Section 9.6.2.3.10.3, with full details of collision risk modelling (CRMs) provided in the EIAR, Vol. III: Appendix 9.3 - Appendix XVII (CRM report). The outputs from collision risk modelling for hen harrier are considered to be representative of highly conservative predicted risk, as the parameters tested were notably precautionary, including bird biometrics (largest risk volume although predominately (75%) smaller, more agile males recorded), flight behaviour (relatively slow, flapping flight), flight time considered in the CRZ (flight time at heights > 10 m, with some non-flight time included), turbine specifications (blade pitch and cord were precautionary) and operating parameters (only 15% turbine downtime, relatively fast rotational periods).

The recommended 99% avoidance was applied, which based on the flight activity recorded within the CRZ generated predicted collision risk outputs of between 0.02 and 0.04 collisions per annum, equivalent to 0.8 to 1.6 collisions over the 40-year operational life of the project. The lower estimate (0.02 collisions per annum) is regarded as precautionary and was inline with range in risk estimates given by Wilson et al. (2015)59 investigating hen harrier collision risk for a typical large scale wind farm (15 turbines) associated with a hen harrier SPA (0.01 to 0.03 collisions per year).

A crude estimate of background mortality was calculated for the regional breeding hen harrier population estimated at 8-14 birds (Ruddock et al., 2024, NPWS, 2024)60,61 by applying an average adult survival rate of 0.81 (BirdFacts)62, to generate an annual background mortality range of 1.52 to 2.66 deaths per annum depending on the size of the population.

To test the potential magnitude of effect on the regional breeding hen harrier population due to collision risk, predicted collision risk at a precautionary 0.02 collisions per annum (assuming 99% avoidance) on a regional population of 8-14 birds would express effects on the adult population ranging from 0.8% to 1.3.% above background levels of mortality.

A population level effect of > 1% above background mortality is generally considered to require assessment as a likely significant effect (Percival, 2003)63, although it is important to note that low level (1-5%) effects are unlikely to have any substantial impact on a given population when considered in isolation. Based on Percival (2003), as an ecologically sensitive species (listed on Annex I of Birds Directive with an unfavourable - amber listed - conservation status in Ireland) that is not part of an SPA population, the avian sensitivity for hen harrier is classed as High.

As per Percival (2003), cross tabulating a precautionary Low magnitude of effect (1.3%) for predicted collision risk, against the High avian sensitivity for hen harrier generated an effect of Low Significance. However, for the reasons outlined above, in reality, it is considered more likely that collision risk for hen harrier will have a Negligible magnitude of effect (>1%) and therefore considering the High avian sensitivity for hen harrier would generate a population level effect of Very Low Significance.

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[59] Wilson, M, Fernández-Bellon, D., Irwin, S. & O'Halloran, J. (2015). T*he interactions between Hen Harriers and wind turbines*. WINDHARRIER. Final project report, prepared by School of Biological, Earth & Environmental Sciences, University College Cork, Ireland. Accessed via: https://www.ucc.ie/en/media/research/planforbio/forestecology/WINDHARRIERFinalProjectReport.pdf

[60] Ruddock, M., Wilson-Parr, R., Lusby, J., Connolly, F., J. Bailey, & O'Toole, L. (2024). The 2022 National Survey of breeding Hen Harrier in Ireland. Report prepared by Irish Raptor Study Group (IRSG), BirdWatch Ireland (BWI), Golden Eagle Trust (GET) for National Parks & Wildlife Service (NPWS). Irish Wildlife Manuals, No. 147. National Parks and Wildlife Service, Department of Housing, Local Government and Heritage, Ireland. Accessed via:

[61] NPWS (2024). Hen Harrier Threat Response Plan 2024-2028. Prepared by NPWS, DoHLGH, DoAFM, DoECC

[62] BTO (2026). BTO BirdFacts - Hen Harrier. BTO, Thetford. Accessed via: https://www.bto.org/learn/about-birds/birdfacts/hen-harrier

[63] Percival, S.M. (2003). *Birds and Wind Farms in Ireland: A Review of Potential Issues and Impact Assessment*. Sustainable Energy Ireland. Accessed via: https://tethys.pnnl.gov/sites/default/files/publications/Percival_2003.pdf

For instances when relative low magnitude effects are anticipated due to collision risk, the importance of post-construction monitoring of operational wind farm developments is highlighted. Post-construction ornithological monitoring, as per SNH (2009)64 guidance is detailed in the EIAR, Vol. II: Chapter 9 - Biodiversity under Section 9.10.9.4 Avian IEFs - Monitoring measures. Hen harrier are listed as one of the main target species.

Ornithological monitoring surveys will start prior to the commencement of construction and, as per SNH (2009) guidance, will continue post-construction in Years 1, 2, 3, 5, 10 and 15 of the wind farm's lifetime. In accordance with Article 16b of RED III, the occasional or incidental killing of birds by the operation of a renewable energy plant shall not be considered to be deliberate and therefore prohibited by Article 5 of the Birds Directive, where appropriate and necessary mitigation measures have been adopted.

In consideration of the summation above, the conclusions of the ornithological impact assessment for hen harrier, as presented in EIAR, Vol II: Chapter 9 - Biodiversity under Section 9.6.1.4.9 and Section 9.6.2.3.10, are based on best scientific information and remain valid and robust.

3.2.4 Item No 4: Nature Conservation - Ornithology (Kestrel)

The Department also notes significant activity by kestrel (223 flights), with at least one breeding pair likely within the 2 kilometre buffer. The EIAR states that kestrel has low turbine avoidance behaviour and predicts 45.6 collisions over the operational lifetime. Given national declines in kestrel populations, the Department considers this impact to be potentially significant. Further assessment should be provided.

3.2.4.1 Response

The reporting detailing the collision risk models (CRMs) run for different species is provided in the EIAR, Vol. III: Appendix 9.3 - Appendix XVII.

As noted by the DAU, the Year 3 modelled outputs for predicted collision risk was notably high for kestrel. The ecology team for the Applicant does not consider this value to accurately represent the likelihood of collision risk for this species in reality and estimates reported are highly inflated for several reasons, which will be outlined below. The DAU's submission has requested further assessment; however, based on the scientific information available, the Applicant does not consider that there is a basis for further assessment and in any event this is not possible in the timeframe available. As per best practice for active planning applications, ornithological surveys are ongoing at Clonkett and if deemed necessary by ACP, updated collision risk modelling can be undertaken.

For clarity the flight seconds recorded and the three CRM outputs reported in the EIAR are reproduced here:

Year 1: 4,415 flight seconds in the CRZ
- generating predicted risk of **0.48** collision per annum (19 collisions over 40 years)

Year 2: 7,912 flight seconds in the CRZ
- generating predicted risk of **0.73** collision per annum (29 collisions over 40 years)

Year 3: 12,905 flight seconds in the CRZ
- generating predicted risk of **1.14** collisions per annum (46 collisions over 40 years)

[64] SNH (2009). *Monitoring the impact of onshore wind farms on birds*. Scottish Natural Heritage, Inverness, Scotland. Accessed via: https://www.nature.scot/sites/default/files/2025-05/guidance-note-monitoring-the-impact-of-onshore-windfarms-on-birds.pdf

Kestrel was the most active raptor species within the 500 m turbine buffer with 223 flights recorded which generated 35,139 flight seconds, 72% occurring within the CRZ. Flight activity was highest during the breeding season (65% of flights) with less activity recorded during the non-breeding season (35% of flights), which indicated that the 500 m turbine buffer was within the home range of one breeding pair. As presented above, it can be seen that year to year the amount of flight time recorded doubles and Year 3 experiences nearly a threefold increase on Year 1.

The first point to note when interpreting outputs of collision models for kestrel is the notably low level of avoidance applied in the model (95%), which is based on SNH (2018)[65] guidelines. This avoidance rate is highly precautionary and was inferred by SNH (now NatureScot) qualitatively from a limited number of sources, with many CRM practitioners discounting it as being unrealistic low. Nevertheless, it is acknowledged by the Applicant's ecology team that kestrels display weak behavioural avoidance of turbines, and therefore; combined with flight behaviour, i.e. slow, hovering flights, means the probability of collision is higher than for other falcon species, like merlin and peregrine. In addition, based on post-construction searches of turbines for bird strikes, kestrels are one of the most frequently recovered birds of prey, along with other widespread more commonly occurring species like buzzard and sparrowhawk. For these species, higher default avoidance (98%) is applied in CRMs. Other raptors species known to experience higher levels of turbine-mediated fatality, such as red kite have higher rates of avoidance applied in CRMs (99%) based on SNH (2018).

The effect that applying higher avoidance rate has on modelled outputs is not linear and the incremental reduction in risk resulting from increasing avoidance rates from 0.95 to 0.98 would result in around a 65% reduction in predicted collision. Therefore, for the most active study year - Year 3 (1.14 collisions per annum at 95% avoidance), increasing avoidance to the default (98%) would decrease predicted collision risk to around 0.45 collisions per annum (18 collisions over 40 years). Increasing avoidance further by 1% and applying 99% avoidance, as used for red kite, would result in a further 50% reduction in predicted collision risk, generating 0.225 collisions per annum (9 collisions over 40 years).

The second point to note, relates to the application of average flight speed for kestrel in the model (10 m/s), which fails to account for the slower, hovering flights undertaken by kestrel when hunting. This results in highly inflated estimates of the numbers of predicted transits, relative to the long periods of time when birds are moving slowly. Alternative modelling approaches accounting for hovering flights in kestrels, e.g. Gittings (2020)[66], generates predicted collision risk estimates significantly lower (> 50%) when compared to the standard model, as applied in the CRMs for the proposed development (Appendix 9.3 -Appendix VII).

The third point, as noted in EIAR, Vol. III: Appendix 9.3 under Section 4.9 survey limitation, different methods were employed for VP watches. One method involved VP watches being undertaken simultaneously from the 5 VPs covering the 500 m turbine buffer, i.e. employ 5 surveyors, and the watch data from the five VPs were analysed as single samples on each survey date. The other more typically employed method involves only 1, or possibly 2 surveyors undertaking VPs, so that there is no overlap in survey effort, i.e. each VP watch is treated as a separate sample. Different treatment of the data means that the modelled outputs for each study year are not directly comparable.

In conclusion: The predicted collision risk estimates presented for kestrel in the EIAR are unrealistically high.

[65] Scottish Natural Heritage, now NatureScot – SNH (2018). *Avoidance rates for the onshore SNH wind farm collision risk model*. Version 2.

[66] Gittings, T. (2020). *Castlebanny Wind farm: Collision Risk Model*. Report: 1623-F4, rev. 2, Dec-2020, as presented in Appendix 7-7 of EIAR for Castlebanny Wind Farm, Co. Kilkenny Accessed via: https://castlebannyplanning.ie/wp-content/uploads/2021/01/Appendix%207-7%20-%20Castlebanny%20Wind%20Farm%20CRM.pdf

In the EIAR, Vol. II: Chapter 9 - Biodiversity under Section 9.6.2.3.9.3: the magnitude of the effect of predicted collision risk on the local kestrel populations (estimated as 50 birds within 10 km^2) was assessed as having a 3% increase in annual background mortality applying an annual survival rate of 0.69 (as published on BTO BirdFacts based on Village, 1990). Therefore, as per Percival (2003), taking a medium sensitivity for kestrel and a low: 1-5% magnitude effect, results in an adverse effect of low significance on a population of national importance (NRA, 2009), over the long-term (EPA, 2022).

Mitigation measures are required to avoid, minimise and offset the risk of turbine mediated mortality to an acceptable level, i.e. < 1% population effect. Proposed mitigation measures are set out in the EIAR, Vol. II: Chapter 9 - Biodiversity under Section 9.7 - Mitigation Measures for Biodiversity, with the following measures applicable to kestrel:

- Section 9.7.1 Embedded 'Design Stage' Mitigation by Avoidance, including: a) avoiding/minimising damage to habitats will maintain prey species for kestrel, and b) total number of proposed turbines was reduced from No. 17 to No. 14, which minimises collision risk.
- Section 9.7.2: Construction Phase Mitigation - Section 9.7.2.7 Avian IEFs, including: a) measures to protect nesting birds during construction
- Section 9.7.3 Operational Phase Mitigation - Section 9.7.3.4 Avian IEFs, including: a) provision of nest boxes to increase productivity and offset the potential effects of turbine mediated mortality, and b) post-construction monitoring to measure efficacy of proposed mitigation.

The EIAR, Vol. III: Appendix 9.5 - BMEP details measures for the creation of additional kestrel nest sites through the provision of nest boxes and the ornithological monitoring regime required is also set out. The aim of nest box provision is to increase nesting options and improve productivity for kestrels in the region.

Residual effects are discussed in the EIAR, Vol. II: Chapter 9 - Biodiversity under Section 9.8 - Residual Ecological Effects, see Section 9.83 - Avian Ecology, which states in relation to the provision of nest box to offset turbine mediated mortality in kestrel:

"The adoption of the appropriate mitigation measures for Avian Ecology as set out in Sections 9.7.2.7 and 9.7.3.4 has ensured that the residual effect following successful implementation of the measures would be negligible in relation to collision risk for all species included within the CRM. It is also worth noting that in accordance with Article 16b of RED III, the occasional or incidental killing of birds by the operation of a renewable energy plant shall not be considered to be deliberate and therefore prohibited by Article 5 of the Birds Directive where appropriate and necessary mitigation measures have been adopted."

Table 9.42 provides an overview of likely significant effects for IEF's, summarises proposed mitigation measures required to control against potential significant effects identified and outlines residual effects which may occur following the implementation of mitigation measures.

In terms of efficacy of nest box provision, the aim is to offset predicted collision risk. Therefore, based on the range of outputs for predicted collision risk, offsetting requires the additional survivorship of:

- One birds every 4 years for adjusted predicted collision risk (0.225 collisions/yr)
- One bird every year for the averaged (Yr 1, Yr 2 & Yr 3) predicted collision risk (0.78 collisions/yr)
- One to two birds every year for the highest unrealistic predicted collision risk (1.14 collisions/yr)

3.2.5 Item no 5: Nature Conservation - Ornithology - Survey Limitations

The Department highlights that survey limitations are repeatedly acknowledged in the EIAR, including insufficient breeding bird effort, lack of dawn/dusk surveys, limited access to private lands, reduced raptor survey days, and low winter walkover effort. The Department considers that these limitations may render some of the EIAR's conclusions uncertain.

3.2.5.1 Response

As outlined in EIAR, Vol. II: Chapter 9 - Biodiversity under Section 9.1.6, in relation to avian impact assessment: "No significant limitations were identified in terms of scale, scope or context in the preparation of the Biodiversity Chapter of the EIAR".

Limitations pertaining to ornithological surveys are highlighted under Section 9.2.3.2.1. In relation to limitations in survey effort for site walkovers, dusk surveys and wider area breeding BoP surveys, these limitations are specific to breeding seasons 2021 and 2022, ONLY. Please note, as detailed in EIAR, Vol. II - Appendix 9.3 under Section 4.9 - Survey limitations, that sufficiently robust surveys and coverage, in line with SNH (2017, as updated NatureScot, 2025) guidelines were achieved in subsequent breeding seasons 2023 and 2024. Therefore, it is considered that sufficient data was collected over the three-year survey period to identify any ornithological constraints that may arise from the proposed Cloonkett Wind Farm.

In relation to the DAU's concerns regarding the potential that insufficient survey data may have reduced the accuracy of collision-risk assessments. There was no deficiency in the survey effort employed to inform the collision risk assessment, which relies on VP watches to record bird activity though the 500 m turbine buffer. As detailed in the EIAR, Vol. III: Appendix 9.3: Avian Ecology & CRM Report, Section 4: Methodology, three years of flight line data were collected, which more than adequately complies with SNH (2017, as updated NatureScot, 2025) guidelines and in excess of 1,080 hours VP watches were conducted over the three-year study.

Issues pertaining to collision modelling relate to interpretation of the output and comparability of data sets between the study years (Year 1, Year 2 & Year 3), as survey teams were deployed differently. As explained in the EIAR, Vol. III: Appendix 9.3 under Section 4.9 survey limitation, different methods were employed for VP watches. One method involved VP watches being undertaken simultaneously from the 5 VPs covering the 500 m turbine buffer, i.e. employ 5 surveyors, and the watch data from the five VPs were analysed as single samples on each survey date. The other more typically employed method involves only 1, or possibly 2 surveyors undertaking VPs, so that there is no overlap in survey effort, i.e. each VP watch is treated as a separate sample. Different treatment of the data means that the modelled outputs for each study year are not directly comparable. As is the case with all modelling exercises careful interpretation of the outputs is required.

In relation to survey limitations the DAU has potential concerns pertaining to the assessment of the following species within the EIAR: barn owl, merlin, sparrowhawk, short-eared owl and white-tailed eagle, which are addressed in the following sections.

3.2.6 Item no. 6: Nature Conservation - Ornithology (Owl, Merlin, Sparrowhawk, eagle)

The DAU submission continues:

Barn owl, merlin, sparrowhawk, short-eared owl and white-tailed eagle were recorded or considered likely to occur within the survey area. The EIAR acknowledges limitations in raptor survey effort, including reduced survey days, absence of dawn/dusk effort, and restricted access to lands. The Department is concerned that insufficient survey data may have reduced the accuracy of collision-risk and disturbance assessments

3.2.6.1 Barn owl

As summarised in the EIAR, Vol. II: Chapter 9 - Biodiversity under Section 9.2.3.2 Avian Ecology - Field Survey Methodologies, buildings and any veteran trees in an area of 1 km from the proposed turbine locations were assessed for breeding barn owls, in line with TII (2021)67 and SNH (2017, as updated NatureScot, 2025) guidelines. Much of this work was undertaken simultaneously with bat roost assessments. No evidence of barn owl breeding sites was identified.

As detailed in the EIAR, Vol. III: Appendix 9.3 - Section 5.3 - Table 39 on 24-Apr-2024 during a wider area survey a single barn owl was observed roosting in a stone storage shed on the edge of the 500 m turbine buffer to north-west of site. The building was assessed as not likely to be a well used roost due to lack of pellets, although some potential for nesting in shed rafters was noted.

As detailed in the EIAR, Vol. III: Appendix 9.3 - Section 3: Desk-based study under Section 3.1.2 the 500 m turbine buffer and surrounding areas, with derelict buildings, open agricultural areas, associated woodland scrub and forestation, provide suitable nesting and foraging habitat for barn owls. There are contemporary records for the species in the wider area surrounding the 500 m turbine buffer area (Balmer et al., 2013), however these Bird Atlas 2007-2011 records pertain to 10 km grid square R25 and breeding is confirmed on the south side of the Shannon Estuary around Foynes. More recent records (2019) confirmed a breeding pair approximately 2 km from the proposed development, i.e. beyond the 1 km zone of influence for this species as recommended by SNH (2017, as update NatureScot, 2025) guidelines.

In the EIAR, Vol. III: Appendix 9.3 - Section 6: Main findings - species synopsis under Section 6.2 no likely significant effects are anticipated for barn owls, and no further impact assessment was required68.

3.2.6.2 Sparrowhawk

In the EIAR, Vol. II: Chapter 9 - Biodiversity under Section 9.3.5.2.2 the baseline account for sparrowhawk is provided, which estimates that there are two breeding pairs in the environs of the proposed development and there were 71 flight observations recorded within the 500 m proposed turbine buffer, generating 2,290 aggregate flight seconds recorded within the CRZ. As detailed in the EIAR, Vol. III: Appendix 9.3 - Appendix XVII Collision Risk Modelling report, collision risk modelling was undertaken for sparrowhawk.

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[67] TII – Transport Infrastructure Ireland (2021). Survey and Mitigation Standards for Barn Owls to inform the Planning, Construction and Operation of National Road Projects. TII Publications: Planning and Evaluation PE-ENV-07005, April 2021. Accessed via: https://cdn.tii.ie/publications/PE-ENV-07005-01.pdf

[68] **Point of clarification**: In terms of sensitivity to wind farm developments, barn owls are reported as successfully breeding at a large wind farm in Scotland, with the number of pairs increasing after the provision of nest boxes, e.g., Crystal Rig Wind Farm[A]. It is generally considered that low level flight behaviour of barn owls (typically < 3-4 m) limits collision risk with larger turbines in the UK (and Ireland) where lattice towers are not commonly employed (Barn Owl Trust, 2015)[B]. As such, impacts are more likely to be associated with any land use change and loss of breeding territories due to the proposed development.

[A] As reported at: https://renews.biz/50292/owls-roost-at-scottish-wind-farm/

[B] Barn Owl Trust (2015). Barn Owls and Rural Planning Applications- a Guide. The Barn Owl Trust. Available at: https://www.barnowltrust.org.uk/wp-content/uploads/Barn-Owls-and-Rural-Planning-Applications-a-Guide-2015.pdf

The EIAR, Vol. III: Appendix 9.3 under Section 6 Main findings - species synopsis notes for sparrowhawk the CRM output predicted a worst case of 2.8 collisions over the 40-year lifetime of the project. The assessment concluded that this predicted levels of collision would have a negligible/imperceptible effect on the regional (county) population. In summary, it is noted that woodland habitats within the proposed development site are important for this widespread and commonly occurring raptor, and the population recorded is assessed as being of local importance. Restricting the timing for proposed felling operations to periods outside the breeding season would limit any potential for direct impacts to this species during construction. No population level effects are anticipated, based on the measured and adjusted level of predicted collision risk

Based on the species favourable (green listed) conservation status (Gilbert et al. 2021) sparrowhawk was scoped out for further consideration within the EIAR and was not considered to be an important ecological feature (EIAR, Vol. II: Biodiversity - Section 9.4.3: Evaluation of Avian Ecology - see Table 9.32).

3.2.6.3 Short-eared owl

There is no survey requirement identified for breeding short-eared owl.

Short-eared owls are classed as a rare and very occasional breeder in Ireland, with a breeding population of 0-5 pairs that breeds sporadically across Ireland selecting upland habitats (Crowe et al., 2021). The breeding population has been assessed as having an unfavourable (amber listed) conservation status (Gilbert et al., 2021) and breeding in Ireland is thought to be limited by low availability of rodent prey, specifically voles. Short-eared owls are listed on Annex I of the EU Birds Directive; however in Ireland, due to the unpredictable and exceptional low breeding densities, there are no SPAs where this species is specifically listed as a SCI. Over the winter there can be an influx of migrants, and small numbers of these winter visitors are typically located where rough grasslands back the coastline (Balmer et al. 2013).

There are no records of breeding in the vicinity of the proposed development and based on the upland locations where short-eared owls have been historically recorded breeding in Ireland, the proposed wind farm site is not considered suitable for breeding short-eared owl.

The mosaic of rough grasslands, boggy areas and wet, marshy grasslands within the 500 m turbine buffer do offer some potential foraging habitat for wintering birds, which can be described as nomadic wonders, moving widely between suitable blocks of habitat in search of prey. The location of the proposed development within 3 km of the coast, where short-eared owls are regularly recorded over the winter means there is potential for this relatively rare wintering species to occur. Unlike many other owl species, short-eared owls are diurnal (active during the day) as well as crepuscular, and if frequently occurring or present for a prolonged period there is a high probability that any birds would have been detected during VP watches or by surveyors on site walkovers. In terms of potential impacts, the habitat regime within the 500 m turbine buffer is widely available within the wider landscape, therefore any potential effects related to habitat loss can be discounted. In addition, short-eared owls, like hen harriers, hunt at low flight heights over the ground and are therefore considered to be at low risk of collision with turbines.

Therefore, based on no recorded usage, low probability of occurrence and limited likelihood of significant effects due to wind farm development, it is considered appropriate to scope out short-eared owl from the assessment and it is not considered as an Important Ecological Feature.

3.2.6.4 White-tailed eagle

In the EIAR, Vol. II: Chapter 9 - Biodiversity white-tailed eagle is considered as a species very infrequently occurring in the area, with only 4 observations recorded during the 3-year baseline study. On this basis, white-tailed eagle was not listed as an Important Ecological Feature (see Table 9.32 in Section 9.4.3: Evaluation of Avian Ecology) and was scoped out of further assessment within the EIAR.

In making this decision the context of the four white-tailed observations was considered, including:

no. 3 observations were the same flight-landing sequence, involving a single bird that was tracked flying within the 500 m turbine buffer during a VP watch on the same date (05-Mar-2024), i.e. technically no. 1 observation

no. 1 observation involved a single bird recorded during a VP watch (27-Aug-2024) which was track flying to the north of the 500 m turbine buffer, just within the 2 km turbine buffer (see Figure XI 25 in EIAR, Vol. III: Appendix 9.3 - Appendix XI: Flightline maps for target species)

Based on one observation within the 500 m turbine buffer and the flight time recorded within the CRZ - collision risk zone (total 120 sec, with 75 sec in CRZ), there was no measurable level of collision risk for this species over the 3-year study.

As detailed in EIAR, Vol. III: Appendix 9.3 - Section 5.6.2 - see Table 49, during wider area surveys conducted over both the breeding and non-breeding seasons white-tailed eagle was only recorded once during wider area wintering waterbird surveys and was seen along the Shannon Estuary, > 3 km from the proposed development.

Therefore, based on the evidence presented in the EIAR, it was considered appropriate to scope out white-tailed eagle at an early stage in the assessment and it can be objectively concluded that no likely significant effects are anticipated for this species.

3.2.7 Item no. 7: Nature Conservation - Ornithology (Wintering Waterfowl)

The Department highlights that wintering waterfowl and waders move frequently between Gortglass Lough, Cloonsnaghta Lough and the wetland habitats in Cloonkett/Glenconaunmore. Turbines are located between these areas, which may create a barrier effect or increase collision risk. The EIAR notes that migratory geese and swans are notably sensitive ta wind farms (SNH 2017); however, this sensitivity is not reflected in the impact conclusions. Clarification is required.

3.2.7.1 Response

Please refer to Clarification 1 response provided in Section 3.2.3 which reviewed the ornithological importance of wetland habitats and wintering waterbird populations in relation to the proposed development. As noted, the Planning Application EIAR provided detailed description including but not limited to the following key points:

I. There are no roosts or foraging areas regularly utilised by migratory swans or geese within 2 km (minimum) of the proposed development. Whooper swans were only recorded on two occasions over the 3-year baseline study, including one observation of three birds flying through the 500 m turbine buffer and one observation of 9 birds at Gortglass Lough. It is considered that the closest area utilised by whooper swan is beyond the zone of influence of the proposed development. Therefore, it can be objectively concluded based on the scientific evidence that the proposed development site and 2 km turbine buffer are not important to this species.

II. No ecologically important migratory goose flocks were recorded in the 2 km turbine buffer. A small flock of feral greylag geese (16 birds) were regularly recorded at Gortglass Lough over the 3-year baseline study. In Ireland, the feral greylag goose population has no or more appropriately a negative ecological value, as they can displace native breeding and wintering species, and this component of the population has been legally categorised as an invasive species listed on the Third Schedule of the European Communities (Birds and Natural Habitats) Regulations of 2011.

III. The count data for Gortglass Lough and Cloonsnaghta Lough reproduced above in Table B.3 from data presented in the EIAR, Vol. II: Appendix 9.3 - Appendix XV, demonstrates that this wetland has not been recorded as supporting > 50 birds, with feral greylags typically contributing to a significant proportion of the numbers. There are only 5 regularly occurring species and overall this wetland is classed as locally important for birds. Based on species composition it does not appear to function significantly as a subsidiary, ex-situ part of the River Shannon and River Fergus Estuaries SPA, i.e. very limited utilisation by species listed as Special Conservation Interests (SCIs) of the SPA.

IV. The site of the proposed development and the associated 500 m turbine buffer, while holding a range of wetland habitats, was not found to be attracting or regularly supporting significant numbers of wetland birds, and utilisation by most wetland birds species was relatively infrequent and typically by small numbers.

V. The Collision Risk Modelling report is contained within the EIAR, Vol. III: Appendix 9.3 - Appendix XVII. The magnitude of effects due to predicted collision risk is assessed on a species by species basis within the EIAR, Vol. II: Chapter 9 - Biodiversity under Section 9.6.2.3 Avian Ecology. In addition to the detailed impact assessments, Section 9.9: Summary of Effects provides a useful summary table (Table 9.42), which allows for quick cross checking of significance of effects in the absence of mitigation and then residual effects, after appropriate mitigation has been applied.

VI. Flight time recorded within the collision risk zone generated a measurable risk for 10 waterbird species, which is summarised in Table B.1, above. Across all the species assessed, predicted collision risk was sufficiently low and was not considered to be at levels where turbine-mediated mortality would contribute to significant (> 1%) population level effects.

There are no regularly occurring waterbird flight paths through the 500 m turbine buffer, i.e. between roosts and foraging grounds, the implications of which are covered under the following section on barrier effects.

Barrier effects

Barrier effects are discussed in the EIAR, Vol. II Chapter 9 - Biodiversity under Section 9.6.2.3.2 - Operational phase - Likely secondary effects on ornithological receptors.

Wind farms can create a significant barrier effect on birds moving through an area, especially if located on a migration route or between foraging and roosting/breeding habitats. Barrier effects are a form of displacement typically considered for large arrays of turbines spread over a wider geographic area or concentrated in an important location, e.g. on an important migration route (Humphreys et al. 2015)69. In response to novel objects, birds will adjust flight paths and/or flight heights to avoid the perceived threat. For birds on migration or making daily flights between foraging and roosting/breeding sites, taking this detour is likely to have energetic costs with the potential to affect condition, including reproductive fitness (e.g. Masden et al., 2009)70.

[69] Humphreys, E.M., Cook, A.S.C.P., & Burton, N.H.K. (2015). *Collision, Displacement and Barrier Effect Concept Note*. BTO Research Report, 669.

[70] Masden, E. A., Haydon, D. T., Fox, A. D., Furness, R. W., Bullman, R., & Desholm, M. (2009). Barriers to movement: impacts of wind farms on migrating birds. *ICES Journal of Marine Science*, 66(4): 746–753.

Considered in isolation, the dimension and spacing of the turbine array for the proposed development, i.e. 14 turbines over an area ca. 3.5 km by ca. 0.8 km at its widest, does not form an elongated or dense barrier effect to bird populations utilising or moving through the area. The proposed development site was not found to be on a migration route or regularly utilised flight line between any roosting/breeding sites and foraging areas.

Given the relatively limited extent of the turbine array being assessed, no likely significant effects due to turbine barrier effects are anticipated. Any effects on bird flight paths are considered under displacement effects in the EIAR. Given the separation distance between the closest wind farm, approximately 4 km (Crossmore Wind Farm) and with the next closest wind farms being sited > 8 km away, there is no mechanism whereby the proposed development can act in-combination with other wind farms in the region to present any barrier to avian flight paths.

3.2.8 Item no. 8: Nature Conservation - Fresh Water Pearl Mussel (Potential Impact)

The DAU submission states:

Having reviewed the documentation relating to FPM, the Department concludes the following:

1. This development has

a) the potential to alter the hydrological regime of the catchment
b) the potential to increase sediment losses to the river
c) the potential to increase nutrient losses to the river, and
d) will further intensify land use within the catchment.

3.2.8.1 Response

It is acknowledged within the EIAR and the NIS that the development has:

- (a) the potential to alter the hydrological regime of the catchment.

  This is examined in Vol. II, EIAR Chapter 9 (Biodiversity), Section 9.6. and Section 9.7. It is also examined in Section 4.7 and Section 5.3 of the NIS. Section 11.4.2.1 of Chapter 11 (Hydrology) also presents the risk of unmitigated increase in surface runoff during construction

- (b) the potential to increase sediment and (c) potential to increase nutrient losses to the river.

  This is examined in Vol. II, EIAR Chapter 9 (Biodiversity), Section 9.5, Section 9.6, Section 9.7 and, 9.8. It is also considered in Section 5.1, Section 5.3 and Section 9.9 of the NIS. Section 11.4.2.2 of Chapter 11 (Hydrology) also presents the risk of unmitigated suspended solids during construction.

- (d) in relation to intensification of land use within the catchment.

It should be noted that the proposed development is in essence a linear development and represents a minimal intensification of land-use in a catchment context. Furthermore, as outlined in Table 1 of the Biodiversity Enhancement Management Plan (BEMP), Appendix 9.5, Vol III of the EIAR. It is proposed to provide significant areas of the site dedicated to biodiversity enhancement and restoration. Furthermore, the Aquatic Habitat Management and Enhancement Plan (AHMEP), Appendix 9.6, Volume III of the EIAR, has also dedicated a significant portion of the site for enhancement measures, based on best practice, to increase its value as habitat, and its potential to support FPM and its host fish in the future. Therefore if the project does not proceed, an opportunity is lost to enhance the existing habitat in the area and its potential to support FPM.

The mitigation measures proposed to address the potential effects are clearly set out in the EIAR and are set out as follows;

- Implementation of a 50m watercourse buffer across the design of the proposed development to ensure avoidance of any direct interaction of turbines, substation infrastructure, crane pads, hardstand areas and access tracks with watercourses (all infrastructure >50 m from watercourses; EIAR, Chapter 9, Section 9.7.1, p. 161-164 and p. 167; NIS, Section 5.3, p. 70-71 and 74; CEMP, Section 3.4.8, p.16, SWMP, Section 2.1, p.6 and Section 3, p. 24).
- Existing drainage features were mapped and used to guide infrastructure placement, documented in EIAR Chapter 11 (Hydrology), Section 11.2.1.1, p. 11 5).
- Floating road design or geotextile foundations to avoid peat compression and drainage alteration.
- Clean, chemically suitable stone sources; no blasting.
- Multi stage SuDS treatment for all surface water from construction areas, including swales, silt traps, settlement ponds, check dams, constructed wetlands, interceptor drains, cross drains.
- All SuDS installed before earthworks begin; no direct discharges permitted (SWMP Section 2.1, p.6).

As detailed in EIAR Vol. VI,NIS Section 5.3, p. 72–76, CEMP Appendix 2.1, SWMP Appendix 11.1, Peat & Spoil Plan Appendix 10.3, AHMEP Appendix 9.6:

- Multi stage SuDS treatment: swales, check dams, settlement ponds, wetlands; no direct discharge to watercourses with onsite supervision for management and discharge monitoring.
- Drainage pathway protection: management of erodible soils; prohibition on peat excavation where risks cannot be mitigated (NIS p. 74).
- Pollution prevention controls: secure bunded storage, spill response protocols, drip trays, mobile bowsers away from drains and watercourses (NIS p. 74-75).
- Prevention of silt laden runoff and stabilisation of drainage during late and post construction phases (NIS p. 75–76).
- Dry weather working conditions and staged earthworks to minimise sediment mobilisation.
- De-watering controls: pump to vegetated areas ≥20 m from drains using filter bags (SWMP Section 2.1).
- Access tracks constructed with permeable aggregate, discharging at or below greenfield rates (SWMP Section 2.1).
- Embedded best practice measures for the protection of hydrological receptors, so that water quality is protected from accidental releases of pollutants and sediments for all Proposed Development phases are discussed in Section 5.3 (p. 72) and included in the CEMP (Vol. III Appendix 2.1), Peat and Spoil Management Plan (Appendix 10.3) and the SWMP.

Mitigation for nutrient runoff is described in Section 11.5.2.6 of the EIAR including that the construction methodology will follow the specifications set out in the Forest Protection Guidelines (DAFM, 2002) and that felling works will be supported during construction and post construction by ECoW management and monitoring. The Surface Water Management Plan (EIAR Vol. III, Appendix 2.1, Section 2.1) states that for the de-watering of excavations, discharges will be pumped over adjacent lands using filter bags and onto natural vegetation keeping a minimum 20m distance from any drain or watercourse, which will provide attenuation of nutrients. The efficacy of the mitigation measures to protect surface water in relation to nutrient inputs to the Cloon, is demonstrated clearly in the NIS, EIAR and supporting plans.

3.2.9 Item no. 9: Nature Conservation -Fresh Water Pearl Mussel (Analysis)

"The NIS has presented robust scientific analyses of the risks from the development on the conservation objectives for the FPM.; nevertheless, insufficient data and analysis has been presented on the:

a) potential hydrological impacts from the permanent loss of peatland habitat and exposure, compaction and dewatering of peat"

3.2.9.1 Response

The NIS and EIAR provides robust data and analysis on the potential hydrological impacts associated with peat loss, peat exposure, compaction and de-watering, and specifically addresses how these impacts could affect FPM within the Lower River Shannon SAC. Baseline data, constraints-led design measures, hydrological modelling and analysis and detailed mitigation, monitoring and enhancement measures are set out in the NIS and supporting EIAR documenting. The design of the Proposed Development has also incorporated embedded mitigation to reduce existing pressures (e.g., removal of ford, elimination of uncontrolled sediment pathways within the Proposed Development), avoids the most sensitive peatland and hydrological receptors, and is designed to preserve hydrological stability.

Section 11.5.1 of Chapter 11 (Hydrology and Water Quality EIAR chapter), describes how site scoping and constraints led design took account of hydrologically sensitive receptors thereby avoiding areas of deep peat, to preserve a 50m buffer from any raised bog, that access tracks avoid deep peat, that bog mats will be used underneath excavators inside the 50 m vegetative buffer zone to prevent soil erosion and potential water quality effects from localised surface water runoff (Section 11.5.2.2), that existing tracks will be used as much as possible and minimising watercourse crossings and new tracks. The section also discusses retention and reinstatement of vegetation cover to minimise hydrological effects of removal of vegetation.

Risk Assessment of Hydrological Impacts

- NIS Section 4.7 (Table 6, p. 52) identifies hydrological connectivity to the SAC, and sets out the potential for changes in hydrology, sediment or nutrient transport to affect FPM at all life stages, establishing the basis for further assessment and mitigation.
- NIS Section 5.3 (p. 70–71) outlines how hydrological risks including water table drawdown resulting from drainage or de-watering activities, alteration of runoff rates, and potential changes in water quality, were mitigated through the constraints-led design process and through the Surface Water Management Plan (SWMP; Vol. III, Appendix 11.1).
- The NIS references EIAR Vol. II, Chapter 10 and Vol. III, Appendix 9.8, Indirect Hydrological Impact Calculations, confirming detailed analysis of peat hydrology, runoff rates and drainage effects.
- EIAR Chapter 11, Section 11.3.9, notes that the Lower Shannon Special Area of Conservation (SAC) is approximately 1.6 km downstream within the Lower River Shannon catchment. This is hydraulically connected to the Proposed Development as the tributaries within and adjacent to it drain to the Cloon River (EPA Code 27C02)), which forms part of the SAC. The Lower Shannon SAC is protected as it is an area of high ecological interest because it contains a high number of habitats and species listed on Annexes I and II of the EU Habitats Directive.

- Chapter 10, Section 10.4.11.4 (Table 10-20) and Appendix 10.2, Section 3.4 (Vol. III) provides details of groundwater monitoring within the peat profile. The data, gathered from 18 peat piezometers (see Figure 3.1, Appendix 10.2, Vol. III) over a 13-month period (December 2023 to December 2024), indicates shallow groundwater levels with minimal seasonal fluctuation. See Appendix 10.2 (Vol. III) Section 3.4, Figures 3-2 to 3-6 for a detailed breakdown of this assessment. As such, due to the peat's low hydraulic responsiveness, construction-related groundwater drawdown is unlikely to significantly affect perched/shallow groundwater levels within the Site's peatland areas. Furthermore, Section 3.3, Appendix 10.1 (Vol III) concludes that "In summary, the results from the peat piezometer monitoring indicate little seasonal variance in groundwater levels within the Blanket Peat. This suggests that groundwater drawdown resulting from construction activities will not have a significant effect on the peatland areas as the soils will be slow to react to localised water levels changes".

Embedded Design Measures

- Constraints-led design avoided deeper peat, hydrologically sensitive areas and natural drainage pathways (NIS Section 5.3, p. 70).
- Floating track construction minimises compression and prevents hydrological alteration (NIS Section 5.3, p. 70).
- Drainage management plan designed to minimise changes in flow volumes and variability and explicitly avoid any direct discharge to watercourses or drains with direct hydrological connectivity, and consideration of capacity ensuring it is acceptable for the anticipated volume of runoff water (NIS Section 5.3, p. 70–71 and citing detailed descriptions in the SWMP, and EIAR, Vol. II, Chapter 10).
- Section 2.5.7, Chapter 2, EIAR, Vol III, clearly sets out the Surface Water management and Site Drainage for the Proposed Development. The Settlement ponds are designed in accordance with CIRIA C648 and shown on Planning Drawing Series No. 0103 and 0500.
- All infrastructure is set back > 50 m from watercourses, in locations where surface water and groundwater flow pathways will be unaffected by the construction and without significantly affecting water retention of the land and with compounds bunded and drained to settlement ponds with appropriate capacity and measures to provide spill containment (NIS Section 5.3, p. 73).
- LiDAR-based ecohydrological analysis (Appendix 9.7) informed infrastructure location and restoration measures along natural overland flow paths, to reduce runoff rates and maintain saturated conditions, thereby limiting downstream hydrological impacts.

Mitigation Measures (Peat Hydrology & FPM; NIS Table 7, Section 5.3, pp. 81–84)

- Drainage controls to prevent drawdown and maintain saturated peat (interceptor drains, attenuators).
- Runoff management through multi-stage SuDS (swales, settlement ponds, wetlands) to avoid hydrological change and prevent sediment/nutrient transport (SWMP, Appendix 11.1).
- Implementation of silt traps and silt fences to prevent sediment/nutrient transport (SWMP, pp. 16, Appendix 11.1)
- Peat handling and reinstatement protocols to minimise exposure, oxidation and erosion (Appendix 10.3).
- Watercourse protection via >50 m setbacks, no direct discharge, and strict pollution-prevention measures (NIS Section 5.3, p. 70–73).
- Monitoring and adaptive management: including pre-construction baseline flow and depth monitoring at site outflows and continued monitoring during construction, allowing early identification and correction of any unwanted hydrological patterns (such as increased flashiness) and documenting any improvements in flow stability. This also includes comprehensive water-quality monitoring including analysing targeted parameters for FPM, continuous turbidity monitoring and alarmed interceptors upstream and downstream during construction, macroinvertebrate monitoring (including the LIFE index which detects any increases in flow intolerant macroinvertebrates over time) assessments (substrate particle size, algal, bryophyte, macrophyte cover and fine sediment), repeat Stage 1 and Stage 2 FPM population surveys post-construction and (NIS Section 5.3, pp. 76–79).

Peatland Restoration and Enhancement Measures

In addition, restoration of 72.38 ha of degraded peatland (NIS Section 2.2, p. 12; Section 5.3, p. 84, Vol. III, Appendix 9.5 Biodiversity Management and Enhancement Plan (BMEP); Vol. III, Appendix 9.6 (Aquatic Habitats Management and Enhancement Plan (AHMEP)) through drain blocking, bunding, re-wetting and cessation of turbary/burning within the site will further reduce downstream existing hydrological pressures). The benefits of these measures include:

- Raised water tables and stabilised peat surfaces, reducing sediment and nutrient mobilisation through erosion.
- Improved hydrological stability, with more stable baseflows, reduced flashy spates, storing water during wet periods and maintain a baseflow through slow release during dry periods (regulating flow velocity and depth) and benefiting both FPM and their salmonid hosts.

Section 11.5.1 of Chapter 11 (Hydrology and Water Quality EIAR chapter) states that *"drain blocking and bunding are proposed. The benefits of drain blocking would be to raise the local water table, which would concurrently support activate peat formation and carbon sequestration while preventing degradation of the peatland. An additional benefit is the restoration of the hydrological function of the bog by drain management that slows the flow of water from the bog, thus reducing the frequency and severity of floods during periods of heavy rainfall."* Therefore, the peatland habitats are not being destroyed, access and crossings are designed to avoid deep peat areas, and peatland restoration efforts are proposed which mitigates the drainage of the peatland environment and raises the water table and fosters peat formation.

Consequently, the NIS demonstrates that hydrological impacts associated with permanent peat loss, exposure, compaction and dewatering were fully assessed, integrated into the Proposed Development design, and supported by detailed mitigation, monitoring and enhancement measures. On this basis, the NIS concludes, based on best scientific information in light of the conservation objectives that the development will not adversely affect the downstream FPM habitat in the River Cloon nor the integrity of the Lower River Shannon SAC having regard to the site's conservation objectives.

3.2.10 Item 4.2 Nature Conservation -Fresh Water Pearl Mussel (Insufficient Data)

"The NIS has presented robust scientific analyses of the risks from the development on the conservation objectives for the FPM.; nevertheless, insufficient data and analysis has been presented on the:

b) The mobilisation of sediment associated with the construction, operation and decommissioning on the wind farm over the lifetime of the development"

3.2.10.1 Response

The NIS and EIAR provides sufficient data and assessment on sediment mobilisation risks arising during the construction, operation and decommissioning of the Proposed Development, and specifically evaluates how these impacts could affect the Freshwater Pearl Mussel (FPM) population within the Lower River Shannon SAC.

Assessment of Sediment Pathways

- Chapter 11 Section 11.4.2 identifies potential effects during construction in relation to increase in surface run off, suspended solids, release of cement-bound products, release of hydrocarbons, and contamination from wastewater. This assessment established the basis for further assessment and mitigation as detailed in Chapter 11, Section 11.5.2.
- NIS Section 4.7, Table 6 (p. 52) identifies hydrological connectivity to the SAC, and sets out the potential for changes in hydrology, sediment or nutrient transport to affect FPM at all life stages, establishing the basis for further assessment and mitigation.
- NIS Section 5.1 (p. 58–59) recognises sediment release as a potential significant effect across all Proposed Development phases, noting the risk of accidental sediment mobilisation during construction, operation and decommissioning, despite the pollution protection measures outlined in the Proposed Development description particularly at the proposed watercourse crossing.
- NIS Section 5.2 (p. 61, 69–70) outlines activities capable of generating sediment (e.g. earthworks, vegetation clearance, drainage installation, material movement, track and hardstanding area construction) and the potential for downstream deterioration of water quality, within tributaries of the River Cloon, and to affect the SAC downstream, negatively affecting FPM and their habitats, which requires clean, low-sediment conditions for recruitment, and also describes the indirect effects of sediment on the species' salmonid hosts.
- The NIS references the supporting hydrological analysis in EIAR Vol. II Chapter 10, including Appendix 9.8 (Indirect Hydrological Impact Calculations) and other related appendices, confirming that sediment mobilisation pathways were examined in detail.

Detailed mitigation measures are provided in the NIS. This document summarises the key measures, but the NIS provides a more detailed and comprehensive description of these measures in Section 5.3 (p. 70-85).

Embedded Avoidance and Design Measures

NIS Section 5.3 (p. 70-71) describes a constraints-led design process including:

- Elimination of multiple watercourse crossings (re-routing the grid connection) and maintaining ≥50 m watercourse construction buffers (CEMP Section 3.4.8).
- All turbines and hardstanding areas sited outside hydrologically sensitive areas except at a single upgraded crossing at Carrowreagh East.
- A single-span bridge (requiring no in-stream works for installation) replacing an existing ford at Carrowreagh East, ceasing traffic through the water course and removing a chronic sediment source (EIAR Vol. III, Chapter 11).
- As previously outlined in the response to the Submission 2 (b) concerning "potential hydrological impacts from the permanent loss of peatland habitat and exposure, compaction and dewatering of peat", deeper peat, hydrologically sensitive areas and natural drainage pathways were avoided, the drainage management plan was designed explicitly to avoid any direct discharge to watercourses or hydrologically connected drains.

Mitigation Measures for Sediment Control — Summary

As detailed in EIAR Vol. VI,NIS Section 5.3, p. 72–76, CEMP Appendix 2.1, SWMP Appendix 11.1, Peat & Spoil Plan Appendix 10.3, AHMEP Appendix 9.6:

- Multi-stage SuDS treatment: swales, check dams, settlement ponds, wetlands; no direct discharge to watercourses.
- Drainage pathway protection: management of erodible soils; prohibition on peat excavation where risks cannot be mitigated (NIS p. 74).
- Pollution prevention controls: secure bunded storage, spill response protocols, drip trays, mobile bowsers away from drains and watercourses (NIS p. 74-75).
- Prevention of silt-laden runoff and stabilisation of drainage during late and post-construction phases (NIS p. 75–76).
- Dry-weather working conditions and staged earthworks to minimise sediment mobilisation.
- De-watering controls: pump to vegetated areas ≥20 m from drains using filter bags (SWMP Section 2.1).
- Access tracks constructed with permeable aggregate, discharging at or below greenfield rates (SWMP Section 2.1).
- Embedded best-practice measures[71] for the protection of hydrological receptors, so that water quality is protected from accidental releases of pollutants and sediments for all Proposed Development phases are discussed in Section 5.3 (p. 72) and included in the CEMP (Vol. III Appendix 2.1), Peat and Spoil Management Plan (Appendix 10.3) and the SWMP.

[71] All the relevant best practice guidance documents are listed in this section

Monitoring and Adaptive Management

A comprehensive programme is detailed in NIS Section 5.3 (p. 76–78):

- Pre-construction water quality and hydrometric baseline (EIAR Chapter 11, 12-month dataset).
- Continuous turbidity monitoring with alarmed interceptors.
- Monthly laboratory water quality testing (parameters in AHMEP Appendix 9.6, Table 2.1, Vol. II Chapter 11 and SWMP, Appendix 11.1).
- ECoW oversight and daily sediment-control inspections.
- Ecological monitoring: macroinvertebrate indices (Q-value, LIFE and PSI; which detect changes in ecological condition, flow and sediment sensitive taxa respectively over time), FPM habitat assessments (substrate particle size, algal, bryophyte, macrophyte cover and fine sediment) and repeat Stage 1 and Stage 2 FPM population surveys (NIS pp. 78–80).

Hydrological and Peatland Enhancements Reduce Sediment Risk

In addition to mitigation measures, as outlined in the previous response (2 (b) above), measures in EIAR Vol. III, Appendix 9.5 BMEP and Appendix 9.6 AHMEP (referenced in NIS Section 2.2, p. 12 and Section 5.3, p. 84) include 72.38 ha peatland restoration (drain blocking, re-wetting, bunding) which raise water tables, stabilise peat surfaces and reduce erosion, as well as restoring peat hydrology, reducing flashy spates, runoff velocity and sediment export, and increasing baseflow stability. LiDAR Ecohydrological analysis informed restoration measures along natural overland flow paths, to reduce runoff rates and maintain saturated conditions, thereby limiting downstream hydrological impacts.

EIAR Vol. III, Appendix 11.1 the Surface Water Management Plan (SWMP) (Section 2.1) states that the access tracks will be constructed using aggregate (from on-site borrow pits) allowing infiltration thereby reducing formation of runoff. Settlement ponds, interceptor drains (discharging at greenfield runoff rate), swales, check dams, will all be constructed and are stated to allow discharges at or below greenfield runoff rates. This will mitigate the risk of increased hydrological impacts from an increased area of hardstanding surfaces. It is also stated that (for the de-watering of excavations) discharges will be pumped over adjacent lands using filter bags and onto natural vegetation keeping a minimum 20m distance from any drain or watercourse, which will provide some attenuation of nutrients and settlement/retention of suspended solids. Monitoring of the water quality will be carried out as detailed in the SWMP to assure the efficacy of the measures to mitigate risks form the engineering works and minimise the risk of potential deterioration. Section 11.5.1 of Chapter 11 (Hydrology and Water Quality EIAR chapter) states that "this reflects the 12-month detailed water quality, water flow and depth monitoring that was completed during pre-Application stage to establish the baseline conditions, with particular attention to hydrometric data defined by FPM statutory and regulatory requirements". Plans - SWMP and planning drawings cross reference, statement on development buffers 50m from watercourses.

In summary, the NIS contains a comprehensive and evidence-based assessment of sediment-mobilisation risks, supported by avoidance, design, mitigation and a rigorous monitoring framework. The measures set out in the NIS are sufficient so that the sediment-related impacts will not compromise integrity of the Lower River Shannon SAC or its FPM population.

3.2.11 Item no. 10: Nature Conservation - Fresh Water Pearl Mussel (Efficacy of Mitigation)

The DAU submission continues:

> *"3. The efficacy of the proposed mitigation measures during construction and operation to prevent alteration of the hydrological function and pollution of the Cloon, in particular with fine sediments and nutrients, has not been demonstrated".*

3.2.11.1 Response

The efficacy of the mitigation measures to protect the hydrological regime and prevent pollution, particularly fine sediment and nutrient inputs to the Cloon, is demonstrated clearly in the NIS, EIAR and supporting plans. Protection of FPM was central to the assessment, design, mitigation and enhancement measures proposed.

Embedded Design Measures Supporting Hydrological Stability

The Proposed Development design avoids hydrologically sensitive areas, eliminates uncontrolled sediment pathways, and removes an existing ford—a chronic sediment source (NIS Section 5.3, pp. 70–71; EIAR Vol. III, Chapter 11).

Key embedded measures include:

- Reduction of existing pressures (e.g., removal of ford, elimination of uncontrolled sediment pathways).
- Avoidance of deep peat and high-risk hydrological receptors based on based on ecohydrological analysis and limiting downstream hydrological impacts (detailed in the previous responses, with full document references including page numbers).
- Design preserves hydrological stability (detailed in the previous responses, with full document references including page numbers).
- ≥50 m buffer to all WFD/EPA watercourses (CEMP Appendix 2.1).
- Single-span bridge with no instream works, replacing a ford (Vol. III Appendix 11.1).
- Floating tracks in deep peat to prevent drainage alteration (NIS p. 71).

These measures reduce baseline pressures and stabilise hydrology before any additional mitigation is applied.

Construction-Phase Mitigation to Prevent Alteration of Hydrology and Water Quality

Mitigation measures are detailed in NIS Section 5.3 (pp. 72–76), CEMP Appendix 2.1, SWMP Appendix 11.1, and Peat & Spoil Management Plan Appendix 10.3. Key measures (Construction and Operation) include:

- No in-stream works and strict IFI seasonal windows.
- Multi-stage SuDS system (swales, silt traps, settlement ponds, wetlands) treating runoff and discharging at or below greenfield rates (SWMP Section 2.1).
- Drain blocking and pre-excavation drain management to maintain saturated peat and slow flows.
- Strict peat and soil management, with immediate reinstatement and erosion controls.
- Bunded fuel/chemical storage, drip trays, mobile bowsers, and detailed spill response procedures (NIS p. 74–75).
- De-watering controls: pumped to vegetated areas ≥20 m from drains using filter bags (SWMP Section 2.1).

Collectively, these measures block the pathways by which fine sediments or nutrients could reach the Cloon.

Section 11.5.1 of Chapter 11 (Hydrology and Water Quality, EIAR chapter) states "the retention and reinstatement of vegetation cover will reduce the potential for dissolved inorganics (orthophosphate & nitrates) to be mobilised into downstream watercourses".

The SWMP (Section 2.1) states that the SuDS system consists of a treated multistage treatment train including grassed swales, silt traps and silt fences (within drains and swales), suitably sized settlement ponds, diffuse outflow from settlement ponds, and the continuation of natural flow paths over vegetated areas before entering watercourses. These all treat for suspended solids, discharge at or below greenfield runoff rates and allow for the attenuation of nutrients from the presence of vegetation in the SuDS train, e.g. shallow grassed swales, (as described in Sections 2.1 and 4.4 of the SWMP).

The SWMP (Section 2.1) states that excavations (particularly cable trenches) will have vegetation reinstated using the seed bank, allowing for nutrient retention and minimising suspended solids.

Monitoring (and reporting), as detailed in the SWMP, will be carried out to assure the efficacy of the measures to prevent effects from the engineering works (Section 4.5 of SWMP details the monitoring programme).

Best practice CIRIA guidance (The SuDS Manual (C753), 2015) will be adhered to in the design, implementation and maintenance of the drainage system (as detailed in Section 2.1 of SWMP). Please refer to the schedule of planning application drawings included in EIAR Vol. 3, Appendix 2.3 for the proposed layout of the drainage system and the drainage strategy for the Proposed Development, which will comprise key components of Sustainable Drainage Systems (SuDS).

Monitoring and Adaptive Management Demonstrating Efficacy

A rigorous adaptive management and monitoring programme is outlined in NIS Section 5.3 (pp. 76–79) and SWMP Section 4.5 and discussed in previous responses, including:

- Continuous and alarmed turbidity monitoring upstream/downstream during construction.
- Daily ECoW inspections and authority to halt works (SWMP Sections 4.3 & 4.5).
- Baseline + monthly laboratory water-quality testing (AHMEP Appendix 9.6, Table 2.1).
- Flow and depth monitoring at site outflows.
- Macroinvertebrate monitoring (indices Q-value, LIFE, PSI) to detect ecological condition, flow and sediment stress.
- FPM habitats (substrate, algae, macrophytes, bryophytes, fine sediment).
- Post-construction Stage 1 & 2 FPM population surveys.

Monitoring directly, measures the hydrological and water-quality attributes relevant to FPM integrity and enables any immediate necessary action to be taken.

The drainage design has been designed in accordance with Best practice CIRIA guidance (The SuDS Manual (C753), 2015).

Enhancement Measures Further Improving Hydrological Function

In addition, hydrological and riparian enhancements in BMEP (Appendix 9.5) and AHMEP (Appendix 9.6) provide added protection, outlined in previous responses in detail. These measures target the primary pressures affecting FPM: excess fine sediment, nutrient enrichment, hydrological instability, drainage and riparian degradation:

- 72.38 ha of peatland restoration (drain blocking, rewetting, bunding, cessation of turbary) raising water tables and stabilising exposed peat, reducing sediment/nutrient mobilisation (BMEP Section 2.4.2, pp. 22–28).
- Targeted drain management using peat dams, attenuation structures, sediment traps, and LiDAR-based prioritisation will slow water movement in drains, reducing channelised sediment transport, promote settling of particulate material, and limiting nutrient-rich flushes reaching the tributaries and stabilise hydrology (BMEP, Section 2.4.2, p22-28; Appendix 9.6 Section 7.2, p. 60).
- 7.31 km of riparian fencing and livestock exclusion to prevent poaching and faecal inputs and reduce existing sediment and nutrient sources (BMEP 4.4.2, pp. 40–44). Supplemented with native riparian planting and recovering riparian vegetation, will stabilise banks and intercept sediment and nutrient-rich run-off before it enters the streams and improve channel stability, enhancing shading to reduce temperatures and algal growth improve dissolved oxygen levels for FPM and host salmonids,. (BMEP, Section 4.4.2, p40-44, AHMEP, Sections 7.2 and 7.3, p60-62). Vegetated margins also slow overland flow, helping maintain FPM-favourable habitat downstream.

Implementation of these measures will cumulatively reduce the movement of sediment and nutrients into the Carrowreagh East and Cloonkett streams, and improve hydrological function and FPM and fish habitats:

The implementation (supervised by ECoW), and monitoring (by the Project Ecologist) of the mitigation measures described in the NIS, EIAR, CEMP, SWMP and the enhancement measures in the BMEP and AHMEP will protect hydrological functioning and prevent pollution of the Cloon from fine sediment and nutrients. Taken together, these avoidance, mitigation and enhancement measures maintain and improve the hydrological regime, water quality and habitat conditions for FPM, supporting the conclusion of no adverse effect on the integrity of the Lower River Shannon SAC having regard to the site's conservation objectives.

3.2.12 Item no. 11: Nature Conservation - Fresh Water Pearl Mussel (Certainty of Impacts)

The DAU submission continues:

> *"4. The hydrological regime and potential pollution are aspects of the habitat of the FPM and, as the potential impacts on each of these, the potential impacts on the suitable habitat extent and condition attributes cannot have been fully assessed. It also follows that the potential impacts on the population attributes (distribution, population size, recruitment, adult mortality) have not been fully assessed. Therefore, the NIS does not make certain that the project will not adversely affect the integrity of that site, i.e. scientific doubt remains as to the adverse effects".*

3.2.12.1 Response

The NIS and EIAR (and associated references AHMP, SWMP, CEMP) provide robust scientific information to assess the potential hydrological, water-quality and pollution-related impacts on all relevant Freshwater Pearl Mussel (FPM) habitat and population attributes within the Lower River Shannon SAC. The conclusion of no adverse effect on site integrity and no likely significant impact on the FPM habitat or population attributes, is based on best available scientific information and in light of the conservation objectives.

As stated in the previous response (Section 2.2.6) the 'do-nothing' scenario, outlined in Vol. II, EIAR, Chapter 9, Section 9.5, p. 105-106, will result in the likely further decline of the River Cloon FPM population and of the ecological condition of the tributaries draining the Proposed Development. In the absence of active management, the current habitat impacts (changing discharge from active turbary, sediment and nutrient loading in the catchment) will continue to contribute to the populations ongoing decline, and possible eventual extinction.

The submission below clearly sets out where in the EIAR and NIS the hydrological regime and pollution potential of the development is adequately addressed. Therefore the potential impacts on the population attributes of the FWPM (distribution, population size, recruitment, adult mortality) have reasonably been addressed .

Baseline Characterisation and Conservation Objectives

The NIS and EIAR established the baseline and assessment criteria needed to evaluate impacts on habitat and population attributes:

- Hydrological connectivity between the site and the SAC, baseline information on water-quality, biological quality (macroinvertebrate indices) and FPM survey results including habitat condition and population estimates are provided in NIS Sections 3.4 (pp. 34–36), 4.4 (pp. 44–45) and 4.7 (p. 52).
- Actions which help to support FPM Conservation Objectives for restoration to favourable conservation status include targets for distribution, population size, recruitment, adult mortality, habitat extent and condition, ecological water quality (macroinvertebrates and diatoms) and substratum quality, flow variability, oxygen availability and host fish numbers—are defined in NIS Section 5.2 (pp. 61–62).
- The baseline characterisation, conservation objectives and assessment criteria for the FPM habitat and population attributes are also described and discussed at length in Vol. II, EIAR Chapter 9, Sections 9.3.6, 9.4.4 and 9.6, and in Vol. III, Aquatics Report, Appendix 9.4 and Aquatic Habitat Management and Enhancement Plan, Appendix 9.6.
- Section 11.5.1, Chapter 11, EIAR, Vol II, states the SWMP includes a Surface Water Quality Monitoring Programme. This reflects the 12-month detailed water quality, water flow and depth monitoring that was completed during pre-Application stage to establish the baseline conditions, with particular attention to hydrometric data defined by FPM statutory and regulatory requirements (see Appendix 9.4, and Appendix 9.6 for further details). The water quality monitoring has taken into account the European Communities Environmental Objectives (Surface Water) (Amendment) Regulations 202210 thresholds are shown in Table 11-10. (Surface Water Regulations as amended)

Sensitivity and Risk Identification

- The NIS explicitly acknowledges the sensitivity of FPM to changes in water quality and hydrology, particularly deterioration in water quality from sediment mobilisation or pollution sediment, and specifically notes that FPM requires very clean water and minimal fine sediment for recruitment, linking directly to population persistence (Section 5.2, pp. 69–70).
- Effects on salmonid host fish and implications for FPM population attributes are also addressed.

Embedded Mitigation through avoidance and design (NIS Section 5.3 (p. 70–71):

- Constraints-led layout avoiding hydrologically sensitive areas, deep peat and watercourse crossings.
- ≥50 m buffers to WFD/EPA watercourses.
- Grid connection rerouted to remove multiple crossings.
- A single-span bridge at Carrowreagh East replacing a ford, eliminating a chronic sediment source and not requiring instream works.
- Floating tracks and peatland-sensitive construction methods to avoid hydrological alteration of peatlands. Additional measures outlined in previous responses above.

- As previously outlined in the response to the Submission 2 (b) concerning "potential hydrological impacts from the permanent loss of peatland habitat and exposure, compaction and dewatering of peat", deeper peat, hydrologically sensitive areas and natural drainage pathways were avoided (based on hydrological monitoring), drainage management plan designed explicitly to avoid any direct discharge to watercourses hydrologically connected drains. Detailed consideration of hydrological regime, runoff volumes and drainage capacity, as well as the prohibition on direct discharge to watercourses Supporting analysis referenced in EIAR Vol. II, Chapter 10 and Appendix 9.8.

Mitigation - Flow stability

- Drainage management plan designed to minimise changes in flow volumes and variability and drainage infrastructure located so that their capacity is acceptable for the anticipated volume of runoff water. (NIS Section 5.3, NIS, p71)
- With suitably sized piped culvert and box culvert crossings, and a suitably designed bridge, there will be no effect on flows within watercourses, and the risk of flooding will not be increased as a result of the Proposed Development (Section 11.3.12, Chapter 11, EIAR, Vol II)
- The predicted increase in the peak runoff attributed to the Proposed Development is relatively low compared to the flows of receiving waters and the wider surface water catchment. The significance of the effect of the increase in runoff at the Proposed Development is considered Moderate to Significant on receiving surface waters. This is without taking account of mitigation measures that will be put in place to slow runoff down to mimic pre-development conditions (Section 11.4.2.1, Chapter 11, EIAR, Vol III).
- All access tracks will be constructed from aggregate which will allow a portion of rainfall to infiltrate and, therefore, reduce surface water runoff. Adjacent swales will also intercept and retain surface water runoff allowing this to disperse naturally via infiltration and evapotranspiration. Where swales are installed on sloped ground, check dam structures will be used within the channels to provide storage, allowing a portion of the flows to disperse naturally, Section 11.5.5, Chapter 11, EIAR, Vol III).
- Swales and drainage channels will discharge runoff from access tracks and areas of hardstanding to settlement ponds. These are suitably size to accommodate flows from storm events up to and including the 1 in 100- year storm event, Section 11.5.5, Chapter 11, EIAR, Vol III).
- Settlement ponds will not discharge to a watercourse and flows from the ponds will disperse naturally at greenfield rates, Section 11.5.5, Chapter 11, EIAR, Vol III).

Mitigation - Elimination of pathways from source to receptor

To prevent pathways from the construction site to FPM habitat:

- Elimination of direct connectivity between construction areas and watercourses.
- Managing and blocking drains prior to excavation, management of erodible soils; prohibition on peat excavation where risks cannot be mitigated (NIS p. 74)
- Multi-stage SuDS treatment train: swales, silt fences and traps, settlement ponds, diffuse outfalls, discharging at or below greenfield rates (SWMP Section 2.1).
- Strict fuel/chemical controls: bunded storage away from watercourses, spill prevention, emergency response protocols (NIS p. 74–75).
- Dry working protocols, staged earthworks and reinstatement of vegetation to minimise sediment mobilisation.
- Dewatering controls: pumping via filter bags onto vegetated areas ≥20 m from drains.
- No direct discharge to watercourses at any stage.
- SWMP in Appendix 11.1, Volume III of the EIAR details the biosecurity measures and mitigation measures to protect aquatic environments, and downstream water quality.

These measures address all identified pathways that could result in deterioration of FPM habitat condition or population viability.

Monitoring and Adaptive Management

The NIS and EIAR sets out a comprehensive monitoring and adaptive management programme, monitoring prior to construction, during construction and post-construction/operational phases for the following in Section 5.3 (p. 76–79), linked directly to the FPM conservation objective attributes. This includes:

- Pre-construction and construction-phase flow and depth monitoring at site outflow
- Continuous turbidity monitoring with alarmed interceptors upstream and downstream during construction.
- Baseline and monthly water-quality testing during construction at fixed locations downstream including the Cloonkett and Carrowreagh East tributaries; including analysing targeted parameters for FPM (AHMEP Appendix 9.6, Table 2.1).
- Macroinvertebrate monitoring (Q-Value, LIFE and PSI indices, detecting ecological condition, flow and sediment stress respectively over time);
- FPM habitat monitoring (substrate particle size, filamentous algae, macrophytes, bryophytes, fine sediment) and repeat Stage 1 & 2 FPM population surveys post-construction (NIS, p. 78-80)

This monitoring framework, which provides an additional layer of certainty will provide dynamic feedback on habitat condition to facilitate early detection providing direct feedback on habitat condition, hydrological regime and population structure and immediate corrective action to prevent adverse effects, directly addressing the conservation objective attributes over phases of the development.

Enhancement Measures: Hydrology and Water Quality

In addition, as previously discussed enhancement measures are designed to further stabilise the hydrological regime and improve water quality, (NIS Section 2.2, p. 12; Section 5.3, p. 84 and detailed in BMEP Appendix 9.5 and AHMEP Appendix 9.6)

- 72.38 ha of peatland restoration (rewetting, drain blocking, bunding, cessation of turf-cutting), enhancing hydrological stability (higher water tables, increased water storage, more stable baseflows) reducing flashy spates that scour gravels and can reduce interstitial permeability and oxygenation, degrading habitats, and can cause washout, displacement or mortality of juvenile FPM and scour spawning gravels reducing recruitment of host fish and preventing erosion, reducing downstream fine sediment and nutrient release from degraded peat surfaces.
- 7.31 km of riparian fencing, removal of livestock access and restoration of riparian buffers, including native riparian planting, stabilising banks and intercepting sediment and nutrient-rich run-off before it enters the streams. Enhanced shading reduces temperatures and algal growth. Cooler, stable conditions improve dissolved oxygen levels for FPM and improve salmonid recruitment. Vegetated margins also slow overland flow, helping maintain FPM-favourable habitat downstream.

In conclusion, the NIS and EIAR fully describes and assesses the hydrological regime and pollution pathways, assesses potential impacts on all relevant FPM habitat and population attributes, and provides enforceable, monitored, mitigation measures. It therefore demonstrates, beyond scientific doubt, that the integrity of the Lower River Shannon SAC will not be adversely affected having regard to the site's conservation objectives.

In addition, as described in Section 11.5.1 of Chapter 11 (Hydrology and Water Quality EIAR chapter), a 12-month detailed water quality, water flow and depth monitoring programme was completed during the pre-Application stage to establish the baseline conditions, with particular attention given to hydrometric data defined by FPM statutory and regulatory requirements, which can be referred to in Appendix 9.4 (Report on Aquatic Ecology Surveys), and Appendix 9.6 the Hydrology and Water Quality EIAR Chapter for further details.

Section 11.4.2.1 of Chapter 11 (Hydrology and Water Quality EIAR chapter) describes the assessment of unmitigated increase in surface runoff and Section 11.5.5 describes the mitigation measures for limiting runoff to the greenfield runoff rate and the benefits of drain blocking will provide in raising the local water table and rewetting of the bogs.

3.2.13 Item no. 12: Nature Conservation - Fresh Water Pearl Mussel (Significant Risk)

The DAU submission continues:

> *"5. It is the opinion of the Department that the proposed development presents a significant risk to the FPM in the Lower Reiver Shannon SAC, has the potential to prevent the achievement of its conservation objective and therefore has potential to have adverse impacts on the integrity of the site.*

3.2.13.1 Response

It is unclear what the specifics of the concern in the opinion expressed in the submission above are based on. It uses unspecific language such as that it 'has the potential' to prevent the achievement of the conservation objectives, without specifying by what means, which is at odds with the robust conclusions in the assessments which are based on a robust scientific evidence base. As outlined in the responses in Section 2.2.7 and in the previous responses in Section 3.2.11 and 3.2.12 above, both the NIS and the EIAR and their supporting technical appendices, assesses all potential impacts and effects of the Proposed Development on the FPM, and their habitat and population attributes within the Lower River Shannon SAC, following the full conservation objective framework and supports a conclusion that the development will not adversely affect the integrity of the Lower River Shannon SAC. based on best available scientific information and in light of the conservation objectives. This assessment of risks to the FPM has been documented in detail under heading 4 above (Response under Section 3.3.11). It concludes potential impacts are fully assessed within the NIS (including a focus on hydrological regime and pollution pathways as outlined in previous responses to submissions) and that the effects of these potential impacts on all relevant FPM habitat and population attributes are assessed, that hydrologically sensitive areas, deep peat and priority habitats have been avoided in the design of the development and that enforceable, monitored, mitigation measures have been provided. This conclusion can apply to the EIAR, which further assesses the potential impacts in detail, and provides fully comprehensive technical appendices outlining the evidence base for the embedded (avoidance) mitigation design, and the many mitigation measures and adaptive management and monitoring system specified to ensure that the FPM habitat and population downstream in the SAC will not be impacted. In addition, the enhancement measures again outlined in detail in the previous responses, deliver meaningful ecological gains that support the restoration of the FPM.

Nothing provided in the EIAR and the NIS, and detailed in the responses in Section 2.2.6 and in the previous responses in Section 3.2.11 and 3.2.12 above, would support the opinion of the DAU that the Proposed Development has the potential to prevent achievement of the restoration to favourable conservation condition of the FPM, on the basis of the EIAR, NIS, CEMP, SWMP and other supporting technical appendices. Detailed descriptions of how the proposed infrastructure avoids hydrologically sensitive areas, deep peat and priority habitats have been provided. A multi-layer management framework is in place: CEMP, SWMP, WFD Assessment, AHMEP and NIS, which documents how there would be no in-stream works, no hydrological connectivity to construction areas, no watercourse deterioration, and no adverse effects on FPM habitat integrity. Best-practice peat management is implemented through the framework: a multi-stage SuDS treatment system delivering cleaner runoff than the current baseline, which when combined with the removal of the ford, represent a net improvement over baseline conditions; a rigorous adaptive management and monitoring programme is in place, with daily inspections, continuous turbidity monitoring, biological quality and FPM habitat and population monitoring, fisheries-compliant working windows, strict pollution-prevention protocols, controlled de-watering, and daily drainage inspections (SWMP Section 4.5, pp. 39–40) preventing sediment mobilisation. In addition to the mitigation measures outlined in the previous sections, the enhancement measures support restoration rather than hinder it, including 72.38 ha of peatland restoration and hydrological attenuation via targeted drain management and prioritised interventions, 7.31 km of riparian fencing, livestock exclusion and buffer restoration, native riparian planting and invasive species control. These measures directly address the dominant pressures on FPM: fine sediment, nutrients, hydrological flashiness and riparian degradation. They will improve water quality and stability in the tributaries entering the Cloon River. The EIAR, NIS and associated management plans therefore demonstrate that the Proposed Development would deliver meaningful ecological gains that support, rather than impede, future restoration of FPM to Favourable Conservation Status.

Section 11.3.9 of Chapter 11 (Hydrology and Water Quality EIAR chapter) describes the assessment of protected ecological habitats. The Lower River Shannon Special Area of Conservation (SAC) is approximately 1.6 km downstream within the Lower River Shannon catchment. This is hydraulically connected to the Proposed Development as the tributaries within and adjacent to it drain to the Cloon River (EPA Code 27C02)), which forms part of the SAC.

The Lower Shannon SAC is protected as it is an area of high ecological interest because it contains a high number of habitats and species listed on Annexes I and II of the EU Habitats Directive, such as:

- Sandbanks which are slightly covered by sea water all the time, estuaries, mudflats, and sandflats not covered by seawater at low tide;
- Coastal lagoons, large shallow inlets and bays, and reefs;
- Perennial vegetation of stony banks, and watercourses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Bvegetation.egetation;
- Vegetated sea cliffs of the Atlantic and Baltic coasts, Salicornia and other annuals colonising mud and sand;
- Atlantic salt meadows (Glauco-Puccinellietalia maritimae), Mediterranean salt meadows (Juncetalia maritimi), and Molinia meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae);
- Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae); and
- Margaritifera margaritifera (Freshwater Pearl Mussel), Petromyzon marinus (Sea Lamprey), Lampetra planeri (Brook Lamprey), Lampetra fluviatilis (River Lamprey), Salmo salar (Salmon) Tursiops truncatus (Common Bottlenose Dolphin), and Lutra lutra (Otter).

A conservation objective in the Lower River Shannon SAC is to restore the favourable conservation condition of Freshwater Pearl Mussel in the Lower River Shannon SAC. The Proposed Development is also located within the Cloon Freshwater Pearl Mussel (FPM) catchment.

The River Shannon and River Fergus Estuaries Special Protection Area (SPA) are downstream of the Site and they are designated for wetland and water bird populations. Further information is provided on protected sites in the Biodiversity Chapter 9 and Natura Impact Statement (NIS).).

3.2.14 Item no. 13: Bats (Buffer Zone)

The DAU submission states:

With regard to bats, the Department notes that the EIAR identifies a range of bat species within the proposed development area, including common pipistrelle, soprano pipistrelle, Nathusius' pipistrelle, Leisler's bat, brown long—eared bat. Myotis spp„ and notably the Lesser Horseshoe Bat, for which a maternity roost is recorded in proximity to the site. The Department notes that hedgerows, drains and riparian features across the site form key commuting and foraging for multiple bat species. These provide essential connectivity between roosts and foraging habitats. The Department is concerned that several turbines and access roads are proposed in close proximity to these linear features, and the EIAR does not provide adequate species-specific buffer zones or a clear avoidance strategy for these high-use flight routes.

The Department notes the high levels of bat activity recorded during surveys. Given this level of usage, the absence of detailed operational mitigation — such as turbine curtailment at low wind speeds, real-time monitoring, and clear thresholds for shut—down —is a significant omission, The mitigation measures provided are generic in nature and do not align with National Parks and Wildlife Service or EUROBATS guidance for developments in bat sensitive landscapes. This Should be Clarified.

3.2.14.1 Response

Adequate species-specific buffer zones or clear avoidance strategy for high-use flight routes:

The EIAR provides a detailed assessment of hedgerows, treelines and watercourses within the Study Area in EIAR Vol. II, Chapter 9, Section 9.2.3.1.2.2, with turbine-specific interactions summarised in Table 9.20. Species-specific bat buffer distances are presented in Figure 9.13, Figure 9.4 and Table 9.41, based on the proposed turbine design and feature height. Avoidance of high-value bat features was incorporated through the constraints-led design process described in Section 9.2.4.3, where turbine and track positions were iteratively adjusted to avoid or minimise interaction with key commuting and foraging features.

While EUROBATS (2016), NatureScot (2021) and Collins (2023) differ in scope, none prescribe species specific turbine to feature buffer distances. Instead, they emphasise maintaining connectivity, avoiding key bat features, and applying precautionary, feature based or context specific mitigation. The feature height derived buffer methodology applied in the EIAR is consistent with NatureScot (2021) and aligns with the broader principles set out in EUROBATS and Collins (2023). Accordingly, all bat species referenced by the Department, including pipistrelle species, Myotis spp., Leisler's bat and brown long eared bat, are addressed through the same comprehensive avoidance and operational mitigation framework.

EIAR Vol. II, Chapter 9, Chapter 9, Section 9.6.1.3.2.2 considers the likely indirect effects on foraging and commuting bats, outlining how the final Site layout has been designed to avoid the most important foraging treelines and hedgerows within the Site to minimise the impact on habitat connectivity. There is a conflict in terms of vegetation removal for bat buffers to prevent collisions for at-risk species where it concerns the foraging territory of lesser horseshoe (LHS) bats. However, LHS are a low flying bat species and not known to be at high risk of turbine strikes. Within the core sustenance zone (CSZ) of the LHB roost including turbine T03, hedgerow removal is not recommended, consistent with Collins (2023), due to the risk of severing key LHB movement corridors. Minimal vegetation removal combined with curtailment therefore represents the most appropriate mitigation for turbines in this location.

EIAR Vol. II, Chapter 9, Section 9.7.1 Embedded 'Design Stage' Mitigation by Avoidance describes how the LHB maternity roost was identified early on in site surveys. A buffer of 250 m around the roost was implemented within which no turbines could be located exceeding Eurobats (2016) recommendations of 200m from important bat habitats. This involved a redesign of the site infrastructure and the movement of turbine T3 a further 80 m south of its originally proposed location. Additionally, it described how the LHB maternity roost building was surveyed and noted to be at risk of collapse due to subsidence and a weakened gable end. Under the supervision of licenced ecologists with advice from NPWS, the Applicant had the remedial works completed. A full report of the scope of works is provided in EIAR Vol. III, Appendix 9.5 BMEP, sub-Appendix II Burrenfadda LHB maternity roost, Precautionary Working Method Statement (PWMS) & Ecological Clerk of Works (ECoW) report for bat roost protection and enhancement measures. It also includes details about the planting of a row of trees to augment the existing tree line (April 2024). The new trees consist of native trees species, and they were planted to fill in the gaps in the existing treeline, to further improve the connectivity for bats. The completion of these conservation works by the Applicant demonstrates good stewardship and proactive collaboration with NPWS and Clare County Council Biodiversity Officers.

EIAR Vol. II, Chapter 9, Section 9.7.1 describes how the design of infrastructure and bat feature buffers around turbine locations will result in a loss of commercial forestry plantation edge habitat (ca. 1.53 km (1,533 m)) on the site, however, edge habitats will increase post-construction through the creation of ca. 2.66 km (2,664 m) of edge habitat, improving foraging and commuting potential. This will result in a net increase in edge habitat of ca 1.1 km (see EIAR Vol. II, Chapter 9, Appendix 9.5 BMEP).

Furthermore, EIAR Vol. II, Chapter 9, Section 9.7.2.3 Bats - Mitigation to avoid potential impacts on foraging and commuting bats describes how the design process for the site layout and proposed development followed the mitigation hierarchy (CIEEM) and has, as much as possible, avoided the removal of treelines, hedgerows and woodland habitats utilised by bats, especially higher value woodlands. To offset unavoidable losses of potential bat commuting/foraging habitat (e.g. through creation of bat buffers) there is proposed planting of riparian corridors. Total hedgerows to be removed for bat buffers amounts to approximately 1,298.14 m, of which 983 m is within 2.5 km of the LHB roost identified on site. According to relevant Guidance (Collins, 2023) the CSZ around the roost is integral to the continuity of the roost and therefore bat vegetation buffers are not recommended around T.03 as this would result in the removal of approximately 330 m of additional mature hedgerows and treelines that are utilised by lesser horseshoe bats as foraging features. Smart curtailment will be used in this location to reduce the potential for collision risk at these locations. Any hedgerows removed as a result of felling for bat buffers or Site infrastructure will be replanted onsite in a like-for-like basis. This is fully incorporated into the proposed creation of ca. 7.31 km of riparian corridor along stretches of the Cloonkett and Carrowreagh East streams. A combination of fencing and natural regeneration and mitigation planting will aim to maximise future woodland, hedgerow, and treeline ecological function by specifying an appropriate species mix and replacement locations to maximise connectivity. In addition, underplanting/interplanting of existing hedgerows within the Proposed Development Boundary to improve the quality and integrity of these linear habitat features will be carried out. The proposed mitigation with further details provided within the BMEP sets out a replanting framework that in the longer term, and with successful establishment and land management, would result in a likely net positive impact upon the local bat population especially the population of lesser horseshoe bats using the site.

Operational bat mitigation measures are set out in Section 9.7.3, including low-wind-speed curtailment, feathering below cut-in speed, and enhanced mitigation at turbines T03 and T13 based on elevated localised bat activity. Additional detail is provided within the Bat Species Conservation Plan (EIAR Vol. II, Chapter 9, Section 9.10.5), outlining seasonal operating windows and relevant wind-speed bands.

Post-construction monitoring, including acoustic detector deployment, carcass searches and adaptive review, is described in Section EIAR Vol. II, Chapter 9, 9.10.9, which sets out how operational measures may be refined in response to monitoring outcomes.

For clarity, the mitigation measures presented in the EIAR are not generic. They are project and site specific and include turbine-specific micro siting, feature-height-derived buffers, defined hedgerow retention within the LHB CSZ and turbine-specific curtailment measures. These are fully specified within the EIAR and NIS, consistent with NPWS, Collins (2023) and EUROBATS guidance and therefore do not constitute generic mitigation.

While the EIAR does not prescribe fixed numeric shutdown thresholds, the operational mitigation framework in EIAR Vol. II, Chapter 9, Sections 9.7.3, 9.10.5 and 9.10.9 provides the mechanism through which turbine shutdown or enhanced curtailment would be implemented, should monitoring indicate the need.

The EIAR therefore provides a complete operational mitigation strategy in relation to bats, appropriate to the scale and context of the project.

3.2.15 Item no. 14: Bats (Limitations in Bat Survey Coverage)

The EIAR acknowledges limitations in bat survey coverage, including restricted access to several land parcels within the 500 metre buffer. The Department is concerned that this may have resulted in an underestimation of bat activity, particularly for species with low-intensity calls such as Myotis and brown long-eared bats. The Department recommends that further survey work may be required to ensure that the full extent of bat usage is understood.

3.2.15.1 Response

The EIAR reflects an extensive multi-season bat survey programme (2022–2024), undertaken in accordance with Collins (2023) and NPWS (Bat Mitigation Guidelines) standards. NPWS (2021) strict-protection guidance requires that survey effort is proportionate to detectability constraints and capable of ruling out significant effects with scientific certainty; the survey design meets these requirements. Given the known detectability limitations of Myotis and brown long-eared bat in Section 9.1.6, the survey scope and intensity were proportionate to those limitations and are considered proportionate to characterise bat activity at the site. . Limitations arising from access constraints were addressed through an extended survey programme, including roost assessments, repeated static detector deployments and supplementary monitoring at key locations, as described in EIAR Chapter 9, Sections 9.2.3.1.2.4 to 9.2.3.1.2.6 and therefore the additional survey effort has negated this limitation.

A precautionary assessment approach is applied in EIAR Vol. II, Chapter 9, Section 9.2.4.8, ensuring that species with inherently lower detectability were assigned appropriate sensitivity categories and assessed conservatively. This ensured that potential effects on these species were not underestimated.

EIAR Vol. II, Chapter 9, APPENDIX 9.2 Bat Report - Bat survey report to inform the EIAR Planning Applica□on for the Proposed Cloonkett Wind Farm, Co. Clare, Results of the active bat seasons 2022 to provides full details of the survey effort from 2022–2025, including LHB roost surveys (Section 3.4; Table 10; Section 3.4.2), multi-season static detector surveys (Section 3.6), and supplementary LHB-focused deployments undertaken in 2022 and 2023 (Section 3.7). These supplementary deployments were included to strengthen confidence in survey coverage within those parts of the Site where access restrictions limited standard static detector deployment. Their inclusion ensured that survey limitations associated with land access did not materially reduce the reliability of the dataset.

In line with best-practice guidance (Collins 2023; NatureScot 2021; NPWS 2021), the Applicant is undertaking continued bat activity monitoring beyond the EIAR period, including ongoing passive detector deployment (12 sampling locations for one full deployment cycle) and periodic re-inspection of roost structures within 300 m. Monitoring commenced in autumn 2025 and the data are available to the Competent Authority upon request. This ongoing monitoring supports the adaptive operational mitigation framework for Annex II species.

The EIAR therefore provides a robust, species-appropriate and precautionary assessment and does not rely on generic assumptions. It incorporates all NPWS-required safeguards for Annex II and low-detectability species.

It is also noted that the Department's comment does not identify any specific gap in the surveys undertaken; rather, it states that underestimation may have occurred. The Applicant therefore wishes to reaffirm that the survey scope, intensity and supplementary coverage deviate in no respect from current guidance or best practice and are considered fully robust.

3.2.16 Item No. 15: Bats (Lesser Horseshoe Bat)

DAU also seek clarification on:

The presence of a Lesser Horseshoe Bat maternity roost, an Annex II species requiring strict protection under the Habitats Directive, warrants particular caution. The Department notes that no assessment has been provided on potential disturbance to the roost. displacement from foraging routes, or changes to connectivity between the roost and key habitats. The competent authority should seek further clarification on this point, as significant effects cannot be ruled out on the basis of the information presented.

The Department recommends that all bat-related mitigation measures be fully described within the CEMP, including clear roles for the Ecological Clerk Of Works (ECoW), monitoring obligations, and contingency measures in the event of increased mortality or behavioural change. Deferred or unspecified mitigation cannot be relied upon in an Appropriate Assessment context.

3.2.16.1 Response

The lesser horseshoe bat maternity roost (Roost F.1) was surveyed across multiple seasons, including emergence, re-entry and winter inspections, as reported in EIAR Vol. II, Chapter 9, Section 9.2.3.1.2.4, with results summarised in Tables 9.4 and 9.22. Connectivity between the roost and key foraging habitat is described in EIAR Vol. II, Chapter 9, Section 9.3.4.2, which identifies the hedgerow and treeline network to the north-east as the principal commuting route. This information establishes the baseline against which potential disturbance, displacement and connectivity impacts have been assessed.

EIAR Vol. II, Chapter 17, Table 17-2 identifies potential interactions between construction activities and biodiversity, including temporary disturbance (noise, vibration and human presence) associated with vehicle movements along the turbine delivery route (TDR). Mitigation measures such as speed controls, defined haul routes, and good practice site management are proposed to limit the impacts of construction traffic on biodiversity. With the implementation of these measures, no significant residual effects on biodiversity are anticipated. Additional species-specific mitigation, including timing of works and avoidance buffers, is outlined in EIAR Vol. II, Chapter 9 and further detailed in Appendix 9.3. Operational effects such as potential bat strikes (including bat mortality due to barotrauma) have also been assessed, with specific mitigation and enhancement measures outlined in Chapter 9 and detailed further in Appendix 9.5 – the Biodiversity Management and Enhancement Plan (BMEP). These include turbine siting and operational curtailment measures to reduce collision risk, as well as habitat management strategies to support local biodiversity.

There is no current Irish or UK guidance that prescribes a specific turbine-to-roost exclusion distance for lesser horseshoe bat maternity roosts. The 250 m buffer applied in the EIAR represents a precautionary and context appropriate design measure informed by EUROBATS (Rodrigues et al. 2014), which recommends a minimum 200 m separation from important bat habitats.

While neither Collins (2023) nor NPWS guidance specifies a numeric setback distance for lesser horseshoe bats, both emphasise the importance of maintaining continuous flight corridors, hedgerow and treeline networks, and appropriate dark/light conditions along commuting routes. These ecological requirements are highlighted across Bat Conservation Ireland guidance, which stresses the need to safeguard connectivity between roosts and foraging habitats and retain landscape features that facilitate safe movement. The 250 m buffer applied at this site incorporates these principles by providing a precautionary spatial allowance within which the key commuting network is retained, the hedgerow structure is maintained, and light-sensitive movement routes are protected. This approach reduces the potential for disturbance, displacement, or functional severance and reflects the known behavioural ecology of the species.

As a result, the buffer functions not simply as a distance-based precaution but as a multifaceted protective measure aligned with the overarching conservation principles set out in Irish and European bat guidance. It therefore represents a proportionate and context-appropriate design response, notwithstanding the absence of prescribed statutory setback distances for lesser horseshoe bat maternity roosts.

The NIS also addresses lesser horseshoe bat. Within Section 3.4 (Field Survey – Bats), the NIS summarises the survey effort (2022–2025), including targeted roost surveys and additional static detector deployments. Section 5.3 (Embedded Mitigation) records the same 250 m roost buffer, the micro-siting of T3 and the retention of key commuting features. Under Section 4.1 (Screening – Identification of Natura 2000 Sites), the NIS confirms that the Knockanira House SAC (LHB QI) is approximately 11 km from the Site and that the on-site roost constitutes a distinct population with no landscape or ecological connectivity to the SAC; therefore, LHB is outside the Natura 2000' Zone of Influence for this project. Potential for disturbance, displacement or connectivity effects on Natura 2000 populations is therefore excluded at screening stage.

The Ecological Clerk of Works (ECoW) role is set out in EIAR Section 9.7, including ecological supervision, toolbox talks, compliance checks and stop-works authority during construction. Monitoring requirements relevant to bats, including detector monitoring, carcass searches and roost monitoring, are provided in EIAR Section 9.10.9. Adaptive management provisions are included across Sections 9.7 and 9.10.9, setting out how operational measures may be refined in response to monitoring findings. These measures satisfy NPWS strict-protection expectations by ensuring that monitoring, corrective action and contingency processes are fully described and secured within the EIAR, rather than deferred.

For clarity, the CEMP deals solely with construction-phase mitigation. All long-term embedded and operational bat mitigation measures are already fully described and secured within the EIAR and NIS, and are not dependent on the CEMP for definition. The role of the CEMP is therefore limited to setting out how the relevant construction-related measures will be implemented on site, including ecological supervision, protection of key features during works, and the application of adaptive management procedures.

The operational and design-stage mitigation relied upon in the impact assessment including the retention of commuting features, the application of precautionary buffers, and post-construction monitoring, is established through the EIAR. As such, no mitigation has been deferred, and the conclusions of the assessment are based on measures that are already fully specified and capable of being regulated through standard conditions.

Together, the EIAR and NIS provide a robust assessment of the potential for disturbance, displacement and connectivity in relation to lesser horseshoe bat in accordance with available guidance and best practice and demonstrate that the design avoids impacts on the on-site roost and its commuting routes.

3.2.17 Item no. 16: Mammal Surveys (Otter, Badger, Red Squirrel and Pine Marten

The DAU submission states:

The Department notes that Red Squirrel and Pine Marten surveys were not completed due to access constraints. Several mammal species including otter, hare, fox, and badger are known locally. The Department recommends that the competent authority seek clarification on how mammal impacts have been assessed in the absence of complete baseline data.

3.2.17.1 Response

Otter and badger surveys completed at the site during optimal survey conditions during walkovers in winter and summer 2024 and 2025 (see table 9.2 in the EIAR Biodiversity Chapter 9) did not identify any resting sites within the Proposed Development area. However, these species are anticipated to use the site for foraging and commuting, and evidence of this has been provided in the Biodiversity Chapter (Section 9.3.4.3 Terrestrial (non-volant) Mammals, EIAR Chapter 9). Line transects for species such as red squirrel were not possible due to access restrictions into mature coniferous plantation on deep peat with extensive drainage (see 9.1.6 Limitations to Assessment, Chapter 9 of the EIAR), which posed health and safety concerns for surveyors. However, it was possible to visually survey areas within the potential zone of influence of the Proposed Development and access was gained to survey these habitats where it was possible to do so safely.

A precautionary approach has been applied to red squirrel and pine marten during the impact assessment. While their breeding sites were not found during any of the surveys, the limitations of access and the suitable habitat types across the Proposed Development resulted in the need for mitigation to be designed to ensure no significant adverse impacts arise in relation to these species during the lifetime of the Proposed Development.

Subsequently, appropriate mitigation has been included, such as construction-related mitigation (Section 9.7.2), Operation mitigation (Section 9.7.3), and design-embedded avoidance (Sections 9.7.1 and 9.2.4.2) to remove the potential for any significant adverse impacts on mammals through a design-led approach. In particular, mitigation includes for a pre-works ecological constraints survey by an appropriately qualified Ecological Clerk of Works (ECoW), to be commissioned by the appointed Contractor to identify any new constraints within the development area - this will include all areas proposed for habitat removal which will be thoroughly checked for signs of mammals prior to works being approved to commence. Mammal ramps will be installed within any open excavations during the works to reduce the risk of entrapment of foraging mammals at this site (this will also be regularly checked by the appointed ECoW as part of the CEMP). Extensive areas of habitat restoration and enhancement at the site have been incorporated into the Proposed Development (full details are provided in the Biodiversity Management and Enhancement Plan (BMEP)). Proposals include planting of riparian buffers/hedgerows and scrub habitat to negate any loss of commuting or foraging features. Mitigation, restoration and enhancement of water quality at the site have been outlined in the Construction Environmental Management Plan (CEMP), Peat Stability Management Plan (PSMP) and robust Surface Water Management Plan (SWMP) for this Proposed Development (see Vol. III - EIAR Appendices). These steps will negate the potential for any significant or long-term adverse impacts on mammal species which may be affected by disturbance due to the Proposed Development.

There is significant alternative suitable habitat available to mammals in the wider area. In addition, there was a lack of mammal breeding sites identified within the Proposed Development area site during several years of extensive surveys. These surveys were carried out by appropriately trained surveyors over several site visits (including specific mammal surveys in summer 2024 and summer 2025 - see Table 9.2 in Chapter 9 of the EIAR). The baseline potential for significant adverse impacts upon mammals is low. This has been further negated by taking a precautionary approach to construction and development on this site through the mitigation outlined above and detailed within the associated reports.

3.2.18 Item No. 17: Ecological Mitigation Measures

The DAU submission states:

The Department recommends that all ecological mitigation measures be clearly outlined in the CEMP. The CEMP currently states that it will be updated prior to construction and will function as a "live document". As noted in previous consultations, mitigation cannot be deferred to future revisions. All measures must be unambiguous and fully detailed at the consent stage.

3.2.18.1 Response

It is submitted that all Construction and Operational Mitigation measures are contained in the EIAR and NIS. The CEMP deals solely with detail of the implementation of the identified construction-phase mitigation. All long-term embedded and operational mitigation measures are fully described within the EIAR and NIS and are identified, certain, and known to work. The role of the CEMP details how the relevant construction-related measures, which are fully detailed in the CEMP, will be implemented on site, including ecological supervision, protection of key features during works, and the application of adaptive management procedures.

The construction, operational and design-stage mitigation are included in the EIAR, and no mitigation has been deferred. The conclusions of the assessments are based on measures that are already fully specified and capable of being regulated through standard conditions.

3.2.19 Item No. 18: Definition Roles and Responsibilities

The DAU submission states:

The Department further recommends that the roles and responsibilities of the applicant, the Environmental Manager, the ECoW and contractors be clearly defined. The Department advises that the ECoW should provide clear sign-off for the implementation of mitigation measures and submit dated reports to the local authority, including notification of any mitigation failure and required remediation

3.2.19.1 Response

A detailed Construction Environmental Management Plan (CEMP), Peat Stability Management Plan (PSMP) and robust Surface Water Management Plan (SWMP) have been provided with this application. These outline, in detail, the steps that will be taken by the appointed ECoW and supported by the appointed Contractor, so that all mitigation is implemented effectively, monitored and reported on following best practice guidelines and standard operating procedures. Through the strict implementation of these environmental plans during construction, the appointed ECoW will be providing clear sign-off for the implementation of mitigation measures and continued communication with the local authority. As per Section 8 of the CEMP, all environmental protection measures contained within the outline CEMP which accompanies the planning application shall be incorporated into a detailed CEMP and construction method statements prior to the commencement of development and will be implemented in full during the construction phase. The Project Manager and Site Manager shall be responsible for the implementation of measures following consultation with the Environmental Manager and ECoW.

The CEMP (Appendix 2.1 of the EIAR) will act solely as the implementation mechanism for these measures. No deferred or unspecified mitigation is relied upon in reaching the conclusions of the Appropriate Assessment.

Accordingly, mitigation measures are fully described and enforceable, and their delivery through the CEMP is consistent with AA requirements.

The roles of the Applicant, Environmental Manager, ECoW and Contractor will be clearly set out at tender stage prior to the commencement of construction through an updated CEMP as necessary. These roles will be agreed with the Planning Authority, which is standard practice.

3.2.20 Item no. 19: Decommissioning Phase

The DAU submission states:

The Department notes that no comprehensive decommissioning plan accompanies the application. As with construction and operation, decommissioning requires full assessment, including hydrological reinstatement, peatland restoration, removal of roads and turbine foundations, and long-term monitoring. Insufficient information has been provided to conclude that decommissioning will not adversely affect the environment or European sites.

3.2.20.1 Response

Section 4.3.1 of the CEMP (Appendix 2.1 of the EIAR) commits that the contractor will produce a detailed and site-specific Decommissioning Plan prior to the commencement of decommissioning. This is considered industry best practice as the Operational Period of the Wind Farm is proposed at 40 years and agreeing a detailed Decommissioning Plan at this stage would be premature negating the use of potential future technologies and best practices in decommissioning. Furthermore, decommissioning will be subject to the statutory/regulatory requirements at that time.

From an environmental impact perspective, each Chapter of the EIAR includes an impact assessment of the Decommissioning Phase of the Development. For example, Section 9.7.4 of Chapter 9 Biodiversity of the EIAR states the following;

> *The access tracks would remain in situ for land management purposes, after the end of the operational period. Additionally, the turbine foundations and hardstanding will remain in situ and be covered over with soil from the stockpiles to re-vegetate naturally. This inherently mitigates disturbance through decommissioning process. Silt protection procedures, similar to during construction will be re-instated for decommissioning. If there is perceived to be risk of erosion during inspection of the revegetated hardstandings then erosion control measures will be taken.*
>
> *The implementation of similar mitigation measures, as detailed for the construction phase mitigation, will ensure that no likely significant effects occur upon IEFs, particularly downstream aquatic IEFs during the decommissioning phase of the Proposed Development. This will be subject to the statutory/regulatory requirements at that time and consultation will be done with relevant authorities prior to any decommissioning works.*

The above approach is considered best practice. In this regard we note Scottish Renewables "Guidelines on Streamlining EIA, September 2025[72] which states "Decommissioning usually associated with lower impacts than the construction phase and therefore similar management can be employed".

Decommissioning is fully assessed throughout the submitted NIS (Vol. VI) where a similar approach is taken to the EIAR. Construction, Operational and Decommissioning Impacts and appropriate mitigation is adequately addressed.

[72] https://www.scottishrenewables.com/assets/000/005/061/Streamlining_EIA_Guidance_September_2025_original.pdf?1758009802

4. SUBMISSIONS FROM OTHER PRESCRIBED BODIES

4.1 AVIATION

In total there were four submissions from prescribed bodies in the Aviation sector.

VII. AirNav Ireland
VIII. Irish Aviation Authority
IX. Department of Defence
X. Shannon Airport

Table 30 of Appendix 16.1 provides a summary of the aviation review undertaken for the proposed development. With respect to the items raised in the submissions from AirNav Ireland, Irish Aviation Authority, Department of Defence and Shannon Airport, Table 30 outlines:

- The turbines will be included in the IAA Aeronautical Electronic Obstacle Dataset.
- It is very unlikely that the proposed development will have any impact on communication and radio navigational aids.
- There will be no impact to flight inspection procedures.
- An aeronautical obstacle warning light scheme will be agreed with the IAA.

4.1.1 AirNav Ireland

As the windfarm falls within the Shannon Airport Runway 06 Instrument Landing System coverage area, ANI Navaids require the developer to complete assessments of the windfarm effects on the following:

(1) Windfarm effects on ILS 06 guidance signals

(2) Windfarm effects on ILS 06 flight calibration

The assessment examining the windfarm effects on ILS 06 guidance signals should include windfarm structures computer modelling and associated signal effects computer simulations, if deemed necessary. FCSL are an ANI approved company who possess the expertise required to complete both the signal effects and flight calibration assessments.

4.1.1.1 Response

The applicant notes the submission by AirNav, that the windfarm falls within the Shannon Airport Runway 06 Instrument Landing System coverage area and notes that ANI Navaids Division requires assessments of the windfarm effects on the following:

1. Windfarm effects on ILS 06 guidance signals
2. Windfarm effects on ILS 06 flight calibration

The aviation review statement contained in Appendix 16.1 provides an assessment of these elements requested by AirNav Ireland.

Windfarm effects on ILS 06 Guidance Signals

Section 2.7 Communication and Navigation Systems of Appendix 16.1 confirms that as the proposed wind farm is approximately 14km from the localisers and transmitting antennas at Shannon Airport, it is very unlikely that the proposed wind turbines will have any impact on the ATS (air traffic service) communications and radio navigational aids. The report outlines that typically, interference to VHF communication systems will only occur when obstacles are in close proximity to the VHF transmitter (less than 500m).

Table 11 of the report confirms that no mitigations are required for communication and navigations systems due to the proposed development, and that there will be no residual impact.

Windfarm effects on ILS 06 Flight Calibration

Section 2.13 of Appendix 16.1 assesses the potential impact of the proposed development on flight calibration.

Figures 20 and 21 of Appendix 16.1 outline the latest publicly available inspection/calibration flights undertaken by FCSL. Figure 22 demonstrates the altitude of the FCSL aircraft on its orbital flight in the vicinity of the proposed development. The altitude of the aircraft as it passes west of the wind farm is 3,875ft. This distance is over 3,000ft higher than the altitude of the nearest proposed turbines. Due to this intervening distance of over 3,000ft, the report confirms that it is highly unlikely that there would be any impact on the inspection/calibration test flights.

In addition to the assessment provided in Appendix 16.1, the applicant agrees to engage FCSL, to complete an assessment on potential impacts on signals and flight calibration. This assessment will be forwarded to AirNav Ireland for review.

4.1.2 Irish Aviation Authority

The applicant should be required to engage with Shannon Airport Authority and the air navigation service provider AirNav to confirm that the proposed wind farm development and any associated cranes that would be utilised during its construction would have no impact on OLS, Instrument Flight Procedures, Communications, Navigation and Surveillance equipment or the safety of flight operations at Shannon Airport.

4.1.2.1 Response

Both Shannon Airport and AirNav Ireland have provided submissions in relation to the proposed development. The applicant agrees to engage with Shannon Airport Authority and the air navigation service provider AirNav Ireland prior to commencement of construction. The purpose of this engagement is to confirm that the proposed wind farm development and any associated cranes that would be utilised during its construction would have no impact on Obstacle Limitation Surfaces, Instrument Flight Procedures, Communications, Navigation and Surveillance (CNS) equipment or the safety of flight operations at Shannon Airport as detailed in Chapter 16 (Vol II) of the EIAR.

Section 2.14 of Appendix 16.1 discusses the requirement of an aviation lighting scheme for the proposed development. If Planning consent is granted, the Applicant agrees to a condition of planning to contact the IAA to agree for the implementation of an aeronautical obstacle warning light scheme for the wind farm development.

The applicant notes that the lighting requirements should be in accordance with Chapter Q – Visual Aids for denoting Obstacles; CS ADR.DSN.Q.851 and GM.ADR.DSN.Q.851 (Pages 729/730) of the EASA Easy Access Rules for Aerodromes (Reg (EU) No. 139/2014) where it states that "Applicability: When considered as an obstacle a wind turbine should be marked and/or lighted." The applicant would provide as-constructed coordinates in WGS-84 format together with ground (AOD in meters), and tip height elevations at each wind turbine location. The applicant is also accepting of the condition to notify Shannon Airport Authority, AirNav Ireland and the Authority of intention to commence crane operations with at least 30 days prior notification of their erection in accordance with S.I 215 of 2005 IAA (Obstacles to Aircraft in Flight) Order.

4.1.3 Department of Defence

- All turbines should be illuminated by Type C, Medium intensity, Fixed Red obstacle lighting with a minimum output of 2,000 candela to be visible in all directions of azimuth and to be operational H24/7 days a week.
- Obstacle lighting may be incandescent. If LED or other lighting types are used should be a type visible to Night Vision equipment.
- Obstacle lighting must emit light at the near Infra-Red (IR) range of the electromagnetic spectrum, specifically at or near 850 nanometres (nm) of wavelength. Light intensity to be of similar value to that emitted in the visible spectrum of light.
- In the event of negative impacts on future military radar systems, the owner will engage with the Department of Defence and will provide suitable mitigations as soon as practical

4.1.3.1 Response

The applicant notes the submission of the DOD and if planning consent is granted, the Applicant agrees to a condition of planning to engage with the DOD to agree for the implementation of an aeronautical obstacle warning light scheme for the wind farm development, including the illumination and type of lighting to be installed. In the event of any negative impacts on future military radar systems as a result of the proposed development, the applicant confirms that consultation will be undertaken with the relevant aviation stakeholders, to agree suitable mitigations.

The Appicant also notes that any Irish Air Corps (IAC) requirements are separate to Irish Aviation Authority (IA) requirements.

4.1.4 Shannon Airport

In general terms, the siting of wind turbines at this location may have implications for the operations of the communication, navigation and surveillance systems used by Air Nav Ireland for the separation and safety of aircraft. The geographical siting of these turbines may also have implications for the flight paths of aircraft.

The turbines are also within 45km of Shannon Airport's ARP (Aerodrome Reference Point) and are greater than 100m in height and therefore would be required to be included in the IAA Electronic Air Navigation Obstacle Dataset. The developer should engage with the IAA in that scenario.

Also, standard: Chapter Q (Visual Aids for Denoting Obstacles) of the Certification Specifications for Aerodrome Design – Current Issue, contained in the EASA aerodrome rules must be applied to the turbines as they would be regarded as an extensive object due to the height and number of turbines involved.

During the construction phase of any development, any crane activity on the site must be preapproved by the completion of the Shannon Airport Crane Operations application form (at least 30 days in advance) of any crane erection taking place in order for assessments to be carried out by the Airport, IAA and Air Nav Ireland against possible interferences by cranes against communication, navigation and surveillance system.

4.1.4.1 Response

The Applicant notes the observation by Shannon Airport Authority. The observation confirms that the proposed development is not within the airport's protection areas and as there is no penetration of the aerodrome obstacle limitation surfaces (OLS), it is unlikely that there will be any Annex 14 OLS impacts due to the wind farm.

Appendix 16.1 of the planning application contains a comprehensive aviation review statement in relation to the proposed development.

The submission by Shannon Airport references that as the proposed turbines are within 45km of Shannon Airport's ARP (Aerodrome Reference Point) and are greater than 100m in height, they would be required to be included in the IAA Electronic Air Navigation Obstacle Dataset.

Section 2.2 of Appendix 16.1 assesses this requirement as raised by Shannon Airport. The aviation review statement confirms that the wind turbines will penetrate the ICAO Annex 15 Aerodrome Surface and therefore, the turbines will need to be registered in the IAA Air Navigation Obstacle Dataset. Figure 5, Appendix 16.1, outlines the obstacles in the vicinity of the proposed development which are already contained in the navigation obstacle dataset. The applicant agrees to engage with the IAA, in the event of a planning consent being granted, that the turbines be included in the IAA Aeronautical Electronic Obstacle Data Sets.

The submission from Shannon Airport references the ANI submission relating to ILS guidance signals and flight calibrations. These areas have been addressed in the response to the AirNav Ireland submission above.

The Applicant notes the reference by Shannon Airport Authority to visual aids for denoting obstacles and should planning be consented, the Applicant agrees to be conditioned to ensure the lighting requirements are in accordance with Chapter Q – Visual Aids for denoting Obstacles; CS ADR.DSN.Q.851 and GM.ADR.DSN.Q.851 (Pages 729/730) of the EASA Easy Access Rules for Aerodromes (Reg (EU) No. 139/2014) where it states that "Applicability: When considered as an obstacle a wind turbine should be marked and/or lighted." The applicant would provide as-constructed coordinates in WGS-84 format together with ground (AOD in meters), and tip height elevations at each wind turbine location.

The Applicant accepts the potential planning condition to notify Shannon Airport Authority, AirNav Ireland and the Authority in advance of commencing crane operations with at least 30 days prior notification of their erection in accordance with S.I. 215 of 2005 IAA (Obstacles to Aircraft in Flight) Order. The Applicant agrees to engage with Shannon Airport Authority and the air navigation service provider AirNav Ireland to confirm that the proposed wind farm development and any associated cranes that would be utilised during its construction would have no impact on Obstacle Limitation Surfaces, Instrument Flight Procedures, Communications, Navigation and Surveillance (CNS) equipment or the safety of flight operations at Shannon Airport.

4.2 Health Service Executive (HSE)

4.2.1 Public Health

The NEHS submission report (18 pages) is based on an assessment of documentation submitted with the planning application, particularly the accompanying EIAR, and a Site Visit by the NEHS to the proposed Cloonkett Wind Farm and its environs (18th November, 2025.).

- *The NEHS would consider the most appropriate criteria for assessing significance of the predicted noise would be consideration of the ENVIRONMENTAL NOISE GUIDELINES for the European Region, 2018 The 2018 WHO Guidance set health protection levels from environmental noise protect Public Health in specific development situations is now supported by Judgements of the Irish Courts*
- *The use of the 2006 Guidance with regards to noise exposure, and in particular the 'balance between development and protection of public health' stated are resulting in a significant volume of complaints from communities exposed to noise from wind turbines post development. This position that the absolute noise exposure limits set in the 2006 Guidance do not necessarily*
- *The conclusion that an absolute noise level is more appropriate with a low night-time background level is hard to reconcile with the protection of health, and particularly prevention of sleep disturbance.*
- *There is no reasonable rationale on health protection grounds to increase the absolute noise exposure limit because the background level has increased, if the wind turbine noise is still the dominant noise source.*
- *The EIAR clearly identifies that the standard being used to assess impacts (BS4142) states that an increase of +10dB indicates a 'significant adverse impact'. The prediction is that night-time will be an increase of +14 dB, which on the logarithmic Decibel scale is a significant level above the level that has been identified as 'significant adverse impact'. So, the conclusion from the EIAR does not reconcile with the assessment criteria used to evaluate 'adverse effects'*
- *It should be noted that if the 35 dB exposure limit had been adopted (which is permitted under the methodology) for low background levels instead of the 40 dB that was chosen, there would be significantly more NSL not meeting the adopted criteria.*

4.2.1.1 Response

WHO Guidelines 2018

The World Health Organization (WHO) document 'Environmental Noise Guidelines for the European Region' (2018) were considered in 8.3.3.2 of Chapter 8 of the EIAR prepared for the proposed development.

The WHO guidelines make recommendations in relation to each of the noise sources considered and each recommendation is rated as either 'strong' or 'conditional'. The Guidelines provided three strong recommendations for each of the transportation noise sources (road traffic, railway and aircraft), one strong and two conditional recommendations for leisure noise and two conditional recommendations for wind turbine noise. Accordingly, it is accepted practice amongst experts that the recommendations for Wind Turbine Noise should not be given the same weight as other recommendations detailed within the document and such recommendations: "requires a policy-making process with substantial debate and involvement of various stakeholders".

It should be noted that the metrics used for quantifying noise levels throughout the Guidelines are Lden and Lnight, which are different from those used in best practice wind farm guidance including WEDG 2006 and ETSU-R-97. There are considerable practical difficulties involved with the use of Lden for wind farm noise and accordingly, it is very rarely used amongst experts for wind turbine noise assessment. The Lden metric is not currently used in Ireland for the prediction, measurement or assessment of wind turbine noise and this is also highlighted in Table 42 of the Guidelines, which states (in relation to additional considerations or uncertainties) that: "There are serious issues with noise exposure assessment related to wind turbines." This is consistent with earlier text in the Guidelines (on page 84), which notes that: "Based on all these factors, it may be concluded that the acoustical description of wind turbine noise by means of Lden or Lnight may be a poor characterization of wind turbine noise and may limit the ability to observe associations between wind turbine noise and health outcomes."

Whilst the Guidelines provide a useful overview of the information available relating to health effects at the time of the WHO review, the recommendations need to consider in the context of the entire document and the Guidelines note that the quality of evidence upon which the recommendations are based is low quality. This is reflected in the fact that the recommendation is conditional, and the Guidelines note that the recommendation should be subject to a policy-making process with substantial debate and involvement of various stakeholders.

In relation to wind turbine noise assessment, no formal changes have been made to the 2006 WEDG. Similarly, the UK continues to rely on ETSU-R-97 and the Institute of Acoustics (IOA) Good Practice Guide on Wind Turbine Noise (GPG) as an appropriate method of assessment. It is also noted that the IOA has not made any changes to the good practice guidance set out in the GPG to incorporate the 2018 WHO guidelines.

With due regards to the above, assessment of operational wind turbine noise against the levels presented in the 2018 WHO document is not considered to be appropriate or in accordance with best practice. This is in accordance with accepted industry practice.

2006 WEDGs & low background noise criteria

The wind farm operational noise criteria used in the assessment is detailed in Section 8.3.3.2. As detailed, the noise criteria used to assess operational noise from the proposed development is based on a best practice approach. This best practice approach is based on the following best practice acoustic guidance:

- Wind Energy Development Guidelines published by the Department of the Environment, Heritage and Local Government (2006);
- ETSU-R-97, The Assessment and Rating of Noise from Wind Farms (1996);
- Institute of Acoustics' A Good Practice Guide to the Application of ETSU-R-97 for the Assessment and Rating of Wind Turbine Noise, (May 2013).

It is important to note recent Parliamentary questions regarding the current wind turbine guidelines, (34th Dail, Houses of the Oireachtas, 15th October 2025), which stated the following in response to the question put to the Minister of Housing, Local Government and Heritage: "if his Department will update the wind turbine guidelines; and when it is expected they will be published." The response was:

"The current 2006 Wind Energy Development Guidelines remain in force, pending the finalisation of the review."

Wind turbines are unusual as a noise source, as the noise emissions increase with windspeed up to the maximum sound power output of the wind turbine, at mid windspeeds (typically around 8m/s). Above this wind speed, the background noise is determined by wind induced noise. As the turbine noise changes with windspeed, applying a different noise limit at different windspeeds is required by best practice guidance, due to the nature of the noise source and increasing background noise levels. ETSU-R-97 details that noise from a wind farm should be limited to 5dB(A) above background for both day and night-time, and highlights that the background level of each period may be different. The IOA GPG outlines that the day amenity noise limits have been set in ETSU-R-97 on the basis of protecting the amenity of residents whilst outside their dwellings in garden areas.

Low background noise areas have been considered in the assessment in accordance with current best practice. A detailed baseline noise survey has informed the assessment and has allowed an accurate characterisation of current baseline noise levels in the vicinity of the proposed development.

Where low background noise levels are found, the 2006 WEDG recommend a limit of 35 to 40 dB LA90. In section 8.3.7 of Chapter 8 of the EIAR, reference is made to these limits and ETSU-R-97, which recommends that the following three factors be considered when determining the fixed limit within the range 35 to 40 dB:

1. Number of dwellings in neighbourhood of the wind farm.
2. The effect of noise limits on the kWh.
3. Duration and level of exposure.

Using these criteria, the EIAR recommended that a 40 dB LA90 noise limit for low background conditions applies, as it represents an appropriate balance between power generation and noise impact, as well as allowing consistency with limits applied to other windfarms in the area. The justification for the low background noise limit has been clearly outlined in Section 8.3.7 of Chapter 8 of the EIAR.

Assessment of Noise by Relative Level; BS4142 for Wind farm Operation

As described in Chapter 8 of the EIAR, the proposed substation has been assessed using the methodology outlined in BS4142:2014+A1:2019 Methods for rating industrial and commercial sound. However, the assessment methodology outlined in BS4142 is not considered appropriate amongst experts for wind turbine noise, and the change in relative noise level is not considered suitable for the prediction of adverse effects or the likelihood of complaints relating to wind turbines for the following reasons:

- BS4142 is a method for rating and assessing industrial sound by relative level and is not considered an appropriate assessment method for evaluating wind turbine noise.
- BS4142 details that the standard should not be used if more appropriate source specific guidance is available. Wind farm specific guidance has been used in the impact assessment undertaken for the proposed development.
- BS4142 only addresses noise at low windspeeds (<5m/s). This is not appropriate for wind turbine noise emissions, which increase with wind speed.
- BS4142 is not appropriate for low background noise areas and suggests that absolute limits are more appropriate. The standard states that 'Where background sound levels and rating levels are low, absolute levels might be as, or more, relevant than the margin by which the rating level exceeds the background. This is especially true at night'. As the background and turbine noise levels are low, it is not considered appropriate to directly compare predicted turbine noise levels with background noise measurements.

Predicted Operational Noise from the Transformer; Absolute noise limit

The substation transformer has been assessed in line with BS4142:2014+A1:2019 Methods for rating industrial and commercial sound. As detailed in Section 8.2.6.1 BS4142 Assessment Methodology of the EIAR, this standard states that the initial assessment of the impact needs to be modified due to the context, and outlines that where the background noise levels are low, absolute noise levels may be more relevant, particularly at night. At night-time, the emphasis of appropriate noise criteria is on preventing sleep disturbance. As detailed in Section 8.2.6.2, World Health Organization criteria for night were used, identified as the L_{night} of 40 dB, which is equivalent to the lowest observed adverse effect level (LOAEL) for night-time noise and sleep disturbance.

Therefore, the assessment of the relative change in noise level is not considered an appropriate assessment methodology amongst experts for the proposed substation transformer, based on BS4142 guidance at night-time and due to the context described above.

4.3 Transport Infrastructure Ireland

TII recommend a number of planning conditions relating to temporary works to the N68/L2158 junction in order to accommodate abnormally sized loads. It is recommended that such works are for a temporary period only to facilitate turbine component delivery and thereafter temporary works shall be removed and lands reinstated following completion of the construction phase of development in the interests of road safety and adherence to the provisions of official public.

While an abnormal load is defined as anything above 46 tonnes and below 180 tonnes, any load above 180 tonnes, represents an 'Exceptional Abnormal Load' ('EAL'). All structures to be crossed will need a full structural assessment by the developer in accordance with TII Publications AM-STR-06048 to verify that they can sustain any 'EAL' load safely and without any damage. Reference should be made to Department of Transport Circular RW18 of 2024 ('Exceptional Abnormal Loads') in that regard.

Full details of the transportation of all Abnormal Loads and all 'Exceptional Abnormal Loads' associated with the subject development shall be agreed with all planning and road authorities along all proposed haul routes prior to the commencement of any development.

4.3.1 Response

The submission of TII is noted and its recommended conditions of planning relating to the temporary works on the N68/L2158 are accepted by the applicant.

It is important to note that the transformer that forms part of the substation will not be of a weight which would meet the 'Exceptional Abnormal Loads' threshold. Appendix 13.1 of the EIAR includes a detailed Turbine Delivery Route assessment carried out by Collett & Sons Ltd who specialise in multimodal logistics. The report assesses the likely route of the Abnormal Loads required to be delivered to site. Appendix 13.2 includes a set of Swept Path Analysis Drawings which demonstrate how the Loads will negotiate the national and local roads. For other deliveries, Figure 13.3 of the EIAR identifies the likely haul routes for a selection of local quarries in the area.

As described in the EIAR a Traffic Management Plan has been developed for the proposed Cloonkett Wind Farm, Co. Clare. The Construction Traffic Management Plan shall be finalised in accordance with this plan following the appointment of the contractor for the main construction works and the turbine supply contract.

As detailed in the TMP, abnormal loads will require an abnormal load permit prior to delivery and will be delivered mostly at night time as agreed with local authority and an Garda Síochána.

A flyer drop will be carried out to advise households along the local road leading to the site in relation to the programme of construction works and especially in relation to oversized load movements.

Per Section 1.1.9 of the TMP, it is anticipated that the proposed haul routes will be capable of accommodating the construction traffic associated with the project. In the event that there are concerns around the structural capacity of a road on a proposed haul route, a structural survey shall be carried out to determine suitability of the existing roads to carry the loading. Where the structural survey indicates that a proposed haul route is not in a suitable condition, details of any upgrading works required shall be submitted to Clare County Council for approval. The developer shall upgrade the road or junction in advance of haulage operations.

A pre-condition survey of haul routes, consisting of a video survey and photographs shall be carried out and a copy submitted to Clare County Council.

Any damage caused to the road shall be repaired to its previous condition, to the satisfaction of Clare County Council. Any defects that appear during the haulage period shall be rectified by the project owner.

4.4 Department of Transport.

The DoT considers that the connection cables to the national grid, may have effects on both the environment and the Regional and Local Road network. The submission provides recommendations and considerations for the laying of cables in public roads.

4.4.1 Response

It is important to note; a key feature of this project is an on site loop in connection to the national grid. Therefore, there are no grid connection cables proposed in the public roads.

5. RESPONSE TO THIRD PARTY SUBMISSIONS

5.1 Introduction

In total, there were 47 third party submissions recorded by An Coimisiún Pleanála. To avoid duplication of responses to multiple similar items, the concerns from the third-party submissions are grouped together under headings and a response from the Applicant is provided. If the third-party concerns were already addressed in the EIAR, or other Planning documentation, a cross-reference to the relevant document, section or drawing has been included below.

Additionally, it is important to note that the submissions of the Kildysart, Cranny, Coolmeen/Clonsnaughta Action Group and the submission by the "Change.org" group, which included multiple signatures to the submission, are also dealt with below in group format.

5.2 Summary of Third-Party Submissions and corresponding response from the Applicant

THIRD PARTY SUBMISSION	RESPONSE
1. Visual Impact	
Item 1.1: The Proposed Development will alter the receiving landscape and is out of character with the area.	The LVIA takes an objective stance and considers the receiving landscape in the national and regional context in terms of distinctiveness, quality and value. In this instance, the LVIA highlights that in accordance with the Clare County Development Plan 2023-2029 the receiving landscape is in the most common 'settled' landscape classification area. This Landscape Character Area is not classified as being of high value or sensitivity and has associated policies that seek to support the established rural economy rather than provide a high degree of protection to the landscape. By any measure, it is predominantly a productive and modified landscape rather than a pristine and naturalistic one. Furthermore, the Wind Energy Strategy for County Clare identifies that the proposed development falls within a large area deemed 'Acceptable in Principle' for wind energy development, this being the second most favourable classification within the County. There are also no scenic designations (scenic routes / views) within 5km of the site.
Item 1.2: The height of the turbines makes them visually obtrusive on the skyline.	Please refer to response to similar issues raised in the Clare County Council submission in section 2.2.1.1 and section 2.2.3.1 above.
Item 1.3: Negative cumulative impacts on landscape when assessed cumulatively with other windfarms in the area.	Please refer to response to similar issues raised in the Clare County Council submission in section 2.2.1.1 and section 2.2.3.1 above.

THIRD PARTY SUBMISSION	RESPONSE
Item 1.4: The Proposed Development might alter the scenic character and value of Gortglass Lake and Clonsnaughta Lake as well as the walking trails around these.	Please refer to the response to Clare County Council submission relating to Gortglass Lough in section 2.2.3.1 above. Aside from some roadside pull-in areas between the nearest local roads and the lakes, there are no designated walking routes around the lakes. There will be some adverse effects on visual amenity when looking northwards across these two lakes to the south of the site and these effects will be in the mid to high range, but not significant because within northerly views, the turbines represent a backdrop feature that does not obscure foreground views across the lakes.
Item 1.5: Negative impact on visual amenity for recreational use of the area.	Visual effects on 'Tourism, Recreational and Heritage Features' are assessed within the LVIA (Chapter 15 of the EIAR). Eleven of the 27 viewpoints assessed were relevant to this receptor type. However, most of these receptors occur on the opposite side of the Shannon Estuary, within the outer western portion of the study area or in the nearer, but visually obscured northern shores of the Shannon Estuary. None are located within close proximity to the site and consequently the range of visual effects for this type of visual receptor only range between 'Slight' and 'Imperceptible' (not significant).
Item 1.6: Landscape and Visual Impact on the character of Shannon Estuary, which is classified as High Amenity and Visually Sensitive under County Clare county development plan (CDP) 2023-2029.	The proposed wind turbines are set back almost 5km from the nearest shores of the Shannon Estuary and these southerly-inclined northern shores are shown by the ZTV maps, the Route Screening Analysis (RSA) and associated photomontages (VP26 and VP27) to have little or no intervisibility visibility with the proposed turbines and therefore no material effect on the character of the Shannon Estuary. From the southern shores of the Shannon Estuary, which are more than 8km there is some visibility of the proposed turbines and such views are well represented in the visual impact assessment. From these locations, the proposed turbines are small scale distant features rising above the distant skyline above agricultural ridgelines that are clearly discrete from the Shannon Estuary context. Consequently, related visual effects only range between 'Slight' and 'Imperceptible' (not significant).
Item 1.7: Negative impact on visual amenity from nearby settlements: Coolmeen, Cranny, Kildysart, Ballynacally, and Lissycasey.	There are no notable sized settlements within close proximity to the site. At c. 4km the nearest settlement is Kildysart from which there is no intervisibility with the proposed turbines. Eight of the 27 representative viewpoints are from recognised settlements and the visual effects range between 'Slight' and 'Imperceptible' (not significant) from all of them.

THIRD PARTY SUBMISSION	RESPONSE
2. Residential Amenity	
Item 2.1: The turbines are in too close proximity to residential receptors, and might degrade residential amenity for nearby households.	EIAR Vol. II, Chapter 15. LVIA and related Appendices (EIAR Vol. III) describes the visual impact assessment that was carried out in compliance with industry Best Practice and the appropriate Guidance (see Chapter 15) and found no significant effects even from the closest local roads to the site which are flanked by numerous residential receptors. The Draft Revised WEDGs (DoHLGH, 2019) introduces the recommendation for a, four times (x4) tip height setback of turbines from nearest residential receptors. This newly suggested measure ensures that residential amenity is maintained relative to the proposed turbine height. Even though the Draft Updated 2019 WEDGs are not adopted, the 4 X tip height setback provision has been applied for the proposed development (see earlier response in section 2.2.1.1 and section 2.2.3).
Item 2.2: Nearby residential receptors have turbary rights near the Proposed Development. Access to these bog sites must be guaranteed.	The use of the local road network, and the layout and maintenance of the internal access tracks has been designed with due regard to existing turbary rights. All turbary plots and related existing access tracks have been avoided, and no wind farm infrastructure will impede access to them. Therefore, no turbary rights or access will be negatively impacted by the Proposed Development during the lifespan of the proposed development.
Item 2.3: Construction phase will be inconvenient to nearby residential amenity.	A detailed CEMP (Appendix 2.1 of Vol. III of the accompanying EIAR) has been completed and submitted as a part of the EIAR which will be adhered to, and which follows best practice to ensure negative effect to residential amenity during the construction phase of the Proposed Development are minimised. A detailed Noise Assessment (Chapter 8 of Vol. II of the submitted EIAR) has also been carried out, which confirms through outlined mitigation measures within that the noise occurring from the construction phase of the proposed development will adhere to the guidelines and will be temporary in nature and not likely to be significant. Please refer to Item 3.3 further down in this table with regard to construction traffic impact.
Item 2.4: Nearby residents might experience low-frequency noise and amplitude modulation.	See EIAR Vol. II, Chapter 8, Section 8.2 where low frequency noise and amplitude modulation are discussed and assessed;. Also, please refer to Item 6.2 further down in this Table.

THIRD PARTY SUBMISSION	RESPONSE
Item 2.5: Flashing red lights from turbines at nighttime would negatively impact residential amenities and enjoyment of night sky.	The exact nature of the lighting requirements for the turbines will be agreed with IAA prior to construction of development. The IAA submission recommends that the applicant contacts IAA *"to agree an aeronautical obstacle warning light scheme for the wind farm development"* prior to construction. The purpose of the lighting is not to illuminate the receiving environment but is used only for identification purposes. Therefore, it will not impact on the amenity of the area.
Item 2.6: Property values of nearby residential receptors might decrease due to the Proposed Development.	Several third-party submissions expressed concerns with regard to potential property devaluation, mortgage and insurance eligibility and loss of future planning potential. EIAR Vol. II, Chapter 6 - Population and Human Health, section 6.7.5.4 provides a summary of the most recent national and international studies, including Ireland, which assess the potential effect of wind farms on property values, etc. The literature review, and related Irish and international (peer reviewed) research studies demonstrate that, wind farms have not impacted property values in the local areas. Therefore, it is a reasonable assumption based on the available national and international literature that the provision of a wind farm at the proposed location would not impact on the property values in the area and will therefore have a long-term imperceptible impact.
3. Public Health Concerns	
Item 3.1: Human health concerns when in close proximity to turbines and noise is amplified by nearby lakes.	As outlined in Sections 6.7.13 - 6.7.15 in Chapter 6 - Population and Human Health of the submitted EIAR, the Construction, Operation, and Decommissioning Phases of the Proposed Development are not expected to have significant effects on Human Health in the area. Sound is not 'amplified' by lakes, however, ground conditions are a factor in sound propagation. The ground conditions are described according to a ground effect, G, which varies between 0 for 'hard' ground (including water, concrete & surfaces with low porosity) and 1 for 'soft' ground (including ground covered by grass, vegetation, & surfaces with high porosity). As outlined in Section 8.4 of Chapter 8 of the EIAR, the computational noise model prepared for the proposed development has accounted for the propagation factors that influence the spread of sound, such as ground effects, in accordance with International standard ISO 9613-2 and the recommendations of the Institute of Acoustics Good Practice Guide on Wind Turbine Noise (GPG).
Item 3.2: Health concerns linked to low-frequency noise exposure.	Please refer to Item Section 4.2.1.1 above which comprehensively addresses this issue.

THIRD PARTY SUBMISSION	RESPONSE
Item 3.3: Traffic, dust, and general disturbance impactful on public health particularly during the construction phase of the Proposed Development.	EIAR Vol. II, Chapter 6 - Population and Human Health, Section 6.7.13 assessed potential effects on Human Health during the Construction Phase of the Proposed Development. Section 6.9.5 outlines the proposed mitigation measures relating to Human Health and Safety, with Section 6.9.5.1 specifically outlining the mitigation measures in this regard during the construction and decommissioning phases of the Proposed Development: EIAR Vol. II, Chapter 7 - Air Quality and Climate assessed the potential adverse effects on air quality and corresponding potential to affect human health. The Chapter concludes the implementation of the mitigation measures will result in slight to moderate residual impacts arising from fugitive dust emissions during construction activities involving excavations, felling or earthmoving. These will be localised in nature and as they will be associated with particular elements of the construction phase, they will be temporary in nature and will not result in any permanent residual impacts. Also, see Appendix 2.1, Section 4.3 Dust Management Plan.
4. Biodiversity	
Item 4.1: The Proposed Development might have a negative impact on nearby Freshwater Pearl Mussel population, which exists downstream of the Proposed Development.	Please refer to Section 2.2.6.1 of this report, which outlines the response for similar concern raised by Clare County Council, and Section 3.2.8 - 3.2.12 which outlines the response for similar concern raised by the DAU. Best practice methods for avoidance, design, mitigation, site management, monitoring and adaptive management and enhancement measures delivering meaningful ecological gains, outlined in the NIS, EIAR, BMEP and AHMEP, support the improvement of the Conservation Status of the FPM downstream.
Item 4.2: Ecological connection between the Proposed Development and Gortlass lake (001015) and Cloonsnaghta lake (001004) pNHA.	Gortglass Lake has been screened out of the Water Framework Directive Assessment (Table 2, Appendix 11.2, Vol. III EIAR Appendices) on the basis of a lack of hydrological connection resulting from topographic separation from the development site.
Item 4.3: Negative impact on bat species in the area.	Section 3.2.15 above which addresses the concerns of the DAU, comprehensively addresses the potential impact on Bat species in the area.

THIRD PARTY SUBMISSION	RESPONSE
Item 4.4: Negative impact on riparian zones and protected aquatic habitats.	Owing to the conditions required by FPM, it is considered an umbrella species, that when protected, ensures the protection of other aquatic species and habitats. A detailed response on the assessment of the potential impacts and effects of the Proposed Development on the FPM has been prepared in Section 2.2.6 and Section 3.3.8 above, outlining all avoidance (embedded) mitigation including avoidance of hydrologically sensitive areas, deep peat and priority habitats, and a comprehensive enforceable, monitored, mitigation measures and adaptive management and monitoring system specified to ensure that the FPM habitat and population downstream in the SAC will not be impacted. In addition, enhancement measures such as extensive peatland restoration (72.38 ha) and riparian fencing, planting, livestock exclusion and native riparian planting, deliver meaningful ecological gains that support the restoration of the FPM. These ecological gains serve not only the FPM but improve the overall ecological condition of the tributaries and the aquatic and riparian habitats and species within the Proposed Development boundary. In addition, Section 9.3.6 in Chapter 9 - Biodiversity of the submitted EIAR outlines the baseline aquatic ecology in the area of the Proposed Development, and how the Proposed Development might interact with the aforementioned. Section 9.4.4 of the same chapter further details the evaluation of aquatic ecology within the area. Section 9.7 outlines mitigation measures for biodiversity embedded within the Proposed Development for the construction, operational, and decommissioning phase. Section 9.8.4 of the same chapter further details likely residual ecological effects on aquatic ecology in the area. Lastly, section 9.10.8 of the same chapter outlines the Aquatic Habitat Management & Enhancement Plan (AHMEP) associated with the Proposed Development, which concludes that the proposed AHMEP when implemented would improve conditions for protected aquatic habitats from the baseline pre-construction of the Proposed Development.

THIRD PARTY SUBMISSION	RESPONSE
Item 4.5: The felling of 8.4ha forestry might have a negative impact on local habitats.	As per Section 9.6.1.3.1.1. of Chapter 9 Biodiversity in the EIAR: Direct habitat loss calculations of ca. 8.4 ha of conifer woodland/recently felled conifer woodland (WD4/WS5), 3.41 ha of scrub (WS1) and 1298.14 m (ca. 1.3 km) of hedgerow (WL1) habitat has included the total loss associated with vegetation clearance buffers required as part of the proposed bat buffer felling mitigation during the construction phase (discussed further within Section 9.7). Loss of WD4 is a direct impact upon a feature of local (lower) importance and is not considered to result in a significant effect upon habitats within the footprint of the Proposed Development. While the wildlife value of commercial plantations is considered of lower local value due to the dominance of single, non-native crop blocks (mostly Sitka spruce), they can provide shelter, connectivity and edge effect for certain woodland species, notably bats for this Proposed Development. These impacts and significance of effect for these features are assessed on a species-by-species basis in the EIAR Biodiversity Chapter 9. The habitat loss of hedgerow (WL1) and scrub (WS1) habitat was considered a permanent, adverse, likely significant effect upon features of local (higher) importance. Mitigation is therefore required in this respect and has been detailed fully within the mitigation section below (Section 9.7).
Item 4.6: Fragmentation of wildlife corridors and create habitat displacement both during construction and operation.	The potential for this impact has been acknowledged in Chapter 9 Biodiversity, Sections 9.6.1.3.1 and 9.6.2.2.1 of the EIAR. Section 9.7.1 outlines the approach for mitigation by avoidance through embedded design. Where residual impacts have the potential to arise, these have been addressed in Section 9.7.2.2 and 9.7.3 and are summarised in Table 9.42 of Chapter 9. Extensive habitat restoration and enhancement across the Proposed Development has been detailed in the BMEP - Biodiversity Management and Enhancement Plan (EIAR, Vol. II: Appendix 9.5).

THIRD PARTY SUBMISSION	RESPONSE
Item 4.7: Subject Site contains; • Red Squirrel; • Otter; • Marsh Fritillary Butterfly; • Devils Bit Scabious; • Smooth newt; • Blue-tailed damselfly; • Pine martens; • Azure damselfly; • Four spotted chaser; • Emperor dragonfly; • Large red damselfly; • Common frog; • Common lizard.	The potential for impacts upon Important Ecological Features (IEFs) have been acknowledged in Chapter 9 Biodiversity, Section 9.6 of the EIAR. Section 9.7.1 outlines the approach for mitigation by avoidance through embedded design. Where residual impacts have the potential to arise, these have been addressed with the inclusion of appropriate mitigation in Section 9.7.2, 9.7.3 and 9.7.4 and are summarised in Table 9.42 of Chapter 9. Extensive habitat restoration and enhancement across the Proposed Development has been detailed in the BMEP - Biodiversity Management and Enhancement Plan (EIAR, Vol. II: Appendix 9.5) which will have positive impacts on the species outlined in item 4.7.
Item 4.8: Impact on sensitive peatland ecosystem, freshwater habitats, and watercourses.	Extensive constraints assessment and habitat surveys were carried out to inform the design of the Proposed Development and incorporate mitigation by design (see EIAR Chapter 9 - Biodiversity, Section 9.7.1 Embedded 'Design Stage' Mitigation by Avoidance) to avoid impacts upon sensitive peatland habitats. Table 9.34 of this Chapter outlines the potential for all habitat impacts (both direct and indirect) as a result of the Proposed Development. As per Section 9.6.1.3.1.1. of Chapter 9 in the EIAR: Significance of effect: Despite best efforts to avoid direct habitat loss of sensitive habitats, a small amount (0.21 hectares) of cutover raised bog mosaic [PB1/PB4 mosaic] will be directly lost under the proposed footprint. This habitat loss occurs within edge habitat and transitionary zones where these larger identified units occur and where development layout constraints were otherwise unavoidable after considerable effort to avoid impact within these areas. Owing to the potential alignment of this mosaic habitat type to the Annex 1 habitat Degraded raised bogs capable of natural regeneration [7120], the direct loss of this habitat amount was considered in the EIAR to be a permanent, adverse, likely significant effect at the county (regional) scale. Additionally, it was acknowledged that direct habitat loss due to the footprint of the Proposed Development would result in the loss of 5.59 hectares of species-poor wet grassland [GS4], 5.29 ha of cutover raised bog [PB4], 1.15 ha of species-poor wet heath [HH3] (not aligning with Annex 1 *Erica tetralix* wet heath [4010] habitat condition) and 0.05 ha of poor acid flush [PF2] the loss of which are all considered to have a permanent, adverse, likely significant effect at the local (higher) scale.

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	As per Section 9.6.1.3.1.2. of EIAR Chapter 9 Biodiversity: Significance of effect: Peatland habitats within the study area range in condition and extent and many units form complex mosaics with other habitats present. However, taking a precautionary approach, in the absence of mitigation, indirect effects upon peatlands have the potential to be a permanent, adverse, likely significant effect ranging from a local (higher) a significance. The extent of this potential indirect impact is localised, highly variable and often closely correlated to existing sub-catchment overland flow pathways, drains and slope. This impact assessment has taken a precautionary approach and the potential indirect impact upon peatland habitats within the survey area should be considered a worst-case scenario. Detailed mitigation to protect water quality and associated habitat functionality within the Site has been outlined in Section 9.7 of this report with cognisance to the indirect impact buffers applied during the design process as outlined within Appendix 9.8: Note on indirect hydrological effects of development on peat which is further supported by the holistic approach to water quality protection outlined within Appendix 2.1 CEMP and Appendix 11.1 SWMP. It is also important to state that under the 'do-nothing' scenario, discussed previously within Section 9.5 many of the existing peatlands within the Study Area will continue to desiccate over time and face further direct and indirect effects from ongoing turbary and drainage. Full details on the potential impacts upon hydrology and soils are provided within Chapter 10. Soils, Geology and Hydrogeology as well as within Chapter 11. Hydrology and Water Quality. To mitigate for residual impacts specifically in relation to peatland habitat, the following habitat measures are being implemented at this site: 72.38 ha of peatland restoration and targeted drain management (drain blocking, re-wetting, cessation of burning/turbary, peat dams, attenuation structures, sediment traps, and LiDAR based prioritisation), raising water tables, stabilising exposed peat, preventing erosion and restoring bogland hydrology (increasing water storage, storing water during wet periods and maintain a stable baseflow through slow release during dry periods as well as reducing flashy spates that scour gravels and can reduce interstitial permeability and oxygenation, degrading habitats, and can cause washout, displacement or mortality of juvenile FPM and scour spawning gravels reducing recruitment of host fish).

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	The benefits of these measures include: Raised water tables and stabilised peat surfaces, reducing sediment and nutrient mobilisation through erosion. Improved hydrological stability, with more stable baseflows, reduced flashy spates, storing water during wet periods and maintain a baseflow through slow release during dry periods (regulating flow velocity and depth) Owing to the conditions required by FPM, it is considered an umbrella species, that when protected, ensures the protection of other aquatic species and habitats. A detailed response on the assessment of the potential impacts and effects of the Proposed Development on the FPM has been prepared in Section 2.2.6 and Section 3.3.2 above, outlining all avoidance (embedded) mitigation including avoidance of hydrologically sensitive areas, deep peat and priority habitats, and a comprehensive enforceable, monitored, mitigation measures and adaptive management and monitoring system specified to ensure that the FPM habitat and population downstream in the SAC will not be impacted. In addition, enhancement measures such as extensive peatland restoration (72.38 ha) and riparian fencing, planting, livestock exclusion and native riparian planting, deliver meaningful ecological gains that support the restoration of the FPM. These ecological gains serve not only the FPM but improve the overall ecological condition of the tributaries and the aquatic and riparian habitats and species within the Proposed Development boundary.
Item 4.9: Negative impact on key Natura 2000 sites: ● Gortglasslough and Cloonsneachta Lough pNHAs; ● River Fergus Estuaries SPA; ● Lower River Shannon SAC; ● Cloonkett Stream; ● Carrowreagh Stream; ● Slieve Bernagh Bog SAC; ● Slieve Aughty SPA.	The assessment of potential impacts and effects on Natura 2000 sites was documented in Section 4.7 of the NIS in an Appropriate Assessment screening. The potential for indirect effects predicted on the Lower River Shannon SAC [002165] and on the River Shannon and River Fergus Estuaries SPA [004077] due to direct hydrological connectivity to the Site, led to the progression to Stage 2, to determine if the Proposed Development would adversely affect the integrity of these Natura 2000 sites (Section 4.8). The potential impacts and effects on the Qualifying Interests of these sites was assessed at length in Sections 5.1 and 5.2 and mitigation measures to avoid, the adverse effects on the integrity of these sites were described in Section 5.3 (summarised in Table 7, p. 81-84). In combination effects were subsequently assessed in Section 6 and it was concluded in Section 7 (p. 100) that based on the information set out and the documents accompanying the planning application, to determine, with reasonable scientific certainty that if the mitigation measures specified for this specific Proposed Development are implemented, the proposal will not, in the light of best scientific knowledge, adversely affect the integrity of any European Site either alone or in combination with any other plans or projects in light of their conservation objectives.

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	Potential negative impacts on the Cloonkett and Carrowreagh Streams are discussed at length in previous responses relating to the FPM, in Sections 2.2.6 and Section 3.2.8 above.
5. Ornithology	
Item 5.1: Potential bird mortality due to collision risk.	Please refer to Sections 2.2.7 - 2.2.8 in response to similar concerns raised by Clare County Council, and Sections 3.2.2 - 3.2.7 in response to further similar concerns raised by the DAU previously within this document.
Item 5.2: Risk for bird species, including Annex I and Annex II protected species: ● Hen Harrier; ● Marsh Harrier; ● Curlew; ● Barn Owl; ● Short Eared Owls; ● Mute Swan; ● Whoop Swan; ● Kestrel; ● White-Tailed Eagle; ● Whimbrel; ● Waterfowl; ● Golden Plover; ● Dunlin; ● Breeding Woodcock ● Egrets	Section 9.3.5 in Chapter 9 - *Biodiversity* of the submitted EIAR outlines the baseline avian ecology in the area of the Proposed Development, and how the Proposed Development might interact with the aforementioned. Section 9.4.3 of the same chapter further details the evaluation of avian ecology within the area. Section 9.7 outlines mitigation measures for biodiversity embedded within the Proposed Development for the construction, operational, and decommissioning phase. Section 9.8.3 of the same chapter further details likely residual ecological effects on avian ecology in the area. This concludes that the adoption of the appropriate mitigation measures for Avian Ecology as set out in Sections 9.7.2.7 and 9.7.3.4 has ensured that the residual effect following successful implementation of the measures would be negligible in relation to collision risk for all species included within the CRM. Lastly, section 9.10.7 of the same chapter outlines the proposed Kestrel nest boxes associated with the Proposed Development, and section 9.10.9 details the proposed monitoring recommendations.
Item 5.3: Potential disruptions to bird species using the lough for feeding, staging, and breeding.	Please refer to Sections 2.2.7 - 2.2.8 in response to similar concerns raised by Clare County Council, and Sections 3.2.2 - 3.2.7 in response to further similar concerns raised by the DAU previously within this document.
Item 5.4: Lack of collision risk modelling.	Please refer to Sections 2.2.7 - 2.2.8 in response to similar concerns raised by Clare County Council, and Sections 3.2.2 - 3.2.7 in response to further similar concerns raised by the DAU previously within this document.
Item 5.5: Risk posed for wintering birds.	Please refer to Sections 2.2.7 - 2.2.8 in response to similar concerns raised by Clare County Council, and Sections 3.2.2 - 3.2.7 in response to further similar concerns raised by the DAU previously within this document.
Item 5.6: Potential nesting disruptions.	Please refer to Sections 2.2.7 - 2.2.8 in response to similar concerns raised by Clare County Council, and Sections 3.2.2 - 3.2.7 in response to further similar concerns raised by the DAU previously within this document.

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6. Noise and Vibration	
Item 6.1: Potential negative impacts from noise and vibration on nearby residential properties, both during construction and operational phase.	Please refer to Section 4.2.1.1 of this report, which outlines the response for similar concern raised by the HSE.
Item 6.2: Risk of amplitude modulation.	Please refer to Section 2.2.4.1 of this report, which outlines the response for similar concern raised by Clare County Council.
Item 6.3: Noise pollution during operational phase might negatively impact recreational value of the area.	Please refer to Section 2.2.4.1 of this report, which outlines the response for similar concern raised by Clare County Council.
7. Shadow Flicker	
Item 7.1: Shadow flicker might negatively impact nearby residential properties.	Please refer to Section 2.2.4.1 of this report, which outlines the response for similar concern raised by Clare County Council. Please refer to Section 2.2.4.1 of this report, which outlines the response for similar concern raised by Clare County Council.
Item 7.2: Shadow flicker might exceed recommended thresholds.	Please refer to Section 2.2.4.1 of this report, which outlines the response for similar concern raised by Clare County Council.
Item 7.3: Lack of mapping of shadow flicker zones.	Comprehensive mapping of shadow flicker zones can be found in Figure 12.1 in Vol. III of the submitted EIAR.
8. Policy	
Item 8.1: Compliance with objectives set out in the CCDP 2023-2029 on: ● Biodiversity (Natura 2000 Sites); ● Landscape (Protection of Landscape Character); ● Scenic Routes; ● Renewable Energy Objective RE2 – Wind Energy Development; ● Landscape Character Classification ● Residential Amenity.	As outlined in EIAR Vol. II, Chapter 4 - *Policy,* the objectives set out in Clare County Development Plan 2023-2029 have been taken into consideration in the design and siting of the Proposed Development. As stated in Section 4.6.4 of Chapter 4: With regard to the Proposed Development of Cloonkett Wind Farm, the CCDP sets out the County's policies and objectives with regard to renewable energy development and its aim to implement climate change mitigation. Since being adopted by Clare County Council on the 9th March 2023, the Clare County Development Plan 2023-2029 (CCDP) has climate action as a core component, with each chapter of the CCDP containing a section that "climate proofs" each spatial strategy and objective with the aim of attaining decarbonisation and future climate resilience for County Clare, as described within the CCDP.

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	An example of this is described within CCDP Chapter 2 - Climate Action, which outlines the Clare County Council approach to climate change and the increasing requirement for continued direct supports and investment with regard to renewable energy generation across County Clare. This is shown where the CCDP Chapter 2 - Climate Action, Goal II states: A county that is resilient to climate change, plans for and adapts to climate change and flood risk, is the national leader in renewable energy generation, facilitates a low carbon future, supports energy efficiency and conservation and enables the decarbonisation of our lifestyles and economy. Policy Objectives are contained throughout the CCDP which relate to aspects such as Climate Change and Biodiversity and Landscape and Visual Amenity, with Landscape and Visual Amenity described in 4.7 Landscape Character Assessment. Policy Objectives related to these are contained within Chapter 2 – Climate Action and Chapter 15 on Biodiversity, Natural Heritage, and Green Infrastructure, with the relevant Policy Objectives described in Table 4.5 and Table 4.6. The Proposed Development aligns with the Clare County Development Plan 2023-2029 in relation to biodiversity enhancement and highlights the need for climate action and resilience, making it highly relevant to the Proposed Development in Cloonkett. As shown in Table 4-6, below, CDP 2.1 supports renewable energy projects that contribute to Ireland's decarbonization goals, reinforcing the necessity of wind energy expansion such as with the Proposed Development. Table 4-6 also outlines CDP 2.2, which highlights climate change mitigation and adaptation, ensuring that developments integrate sustainability measures to enhance resilience. Chapter 9 - *Biodiversity* of this submission follows guidance from the Chartered Institute of Ecology and Environmental Management (CIEEM, 2018), which is widely recognised as the leading guidance on Ecological Impact Assessment (EcIA) in Ireland. This guidance defines enhancement as "improved management of ecological features or provision of new ecological features, resulting in a net benefit to biodiversity, which is unrelated to a negative impact or is 'over and above' that required to mitigate/ compensate for an impact." This document was updated in 2024 and outlines an accepted approach for the evaluation of potential impacts and for the provision of biodiversity enhancement objectives for such developments.

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	The enhancement of new and existing habitats is a key strategy in the current Clare County Development Plan (2023 – 2029) and forms part of one of the County Council's Development Plan Objectives (CDP 15.12) explicitly stating that an objective is to: "Promote biodiversity net gain in any new plans/projects/policies to promote development that leaves biodiversity in a better state than before." While there is currently no formal legal framework for 'biodiversity net gain' or 'biodiversity enhancement' in Ireland (CIEEM, 2024), a Biodiversity Management Enhancement Plan (BMEP) complementary to a peer-reviewed Freshwater Pearl Mussel Management Plan (FPMMP) have been prepared by the project Ecologists to support this planning application. These documents provide a detailed proposal of site-specific biodiversity enhancement and management objectives for the Proposed Development, focused on the project-specific Important Ecological Features (IEFs) identified as part of the assessment, and are considered sufficient to meet the relevant biodiversity objectives as outlined within the CCDP and CBAP. The BMEP and FPMMP provide an overview of the important habitats and species within the Site and collate all relevant information on the proposed enhancement, management and monitoring measures in relation to biodiversity within the Site. Their aim is to meet the objectives of the CCDP and CLBAP to promote a multi-faceted approach to achieving maximum biodiversity enhancement within the Site over the lifetime of the Proposed Development (40 years). With successful implementation of the measures outlined within these reports, biodiversity enhancement can be expected within the Site. This is demonstrated through an assessment of habitat loss versus habitat gain ratios and within the outcomes of the programme of monitoring over the lifetime of the Proposed Development. Works have been considered within the context of the specific sensitivities of the Site and will be as low-maintenance, sustainable and environmentally friendly and as possible. Policy Objectives such as CDP 15.12: Biodiversity and Habitat Protection requires supports for biodiversity enhancement by incorporating measures to enhance local habitats and protect wildlife. This includes creating buffer zones, preserving existing natural features, and implementing habitat restoration initiatives. These efforts contribute to the county's broader goals of promoting biodiversity and ensuring the protection of habitats, as outlined in CDP 15.12. By integrating these measures, the wind farm development not only generates renewable energy but also fosters a healthier ecosystem, benefiting both the environment and the local community.

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	A further example of this is shown in Policy Objectives such as CCDP 6.17: Energy Supply, as shown in Table 4-8, below, which shows Clare County Council supporting on-land and off-shore renewable energy production. The Proposed Development supports the CCDP goal of promoting sustainable development and environmental awareness by generating clean, renewable energy which will significantly reduce carbon emissions, thus helping Clare County to meet its climate action targets and contribute to national and international efforts to combat climate change. The Proposed Development also aligns with the CCDP objectives of fostering economic growth and creating employment opportunities within the county and wider region. The construction and operation of the wind farm will create jobs in the local community, both directly in terms of construction and maintenance, and indirectly through the increased economic activity associated with such a large infrastructure project. The Proposed Development will also enhance energy security and resilience in county Clare. By diversifying the local energy mix and increasing the proportion of locally-generated renewable energy, the Proposed Development will reduce reliance on imported fossil fuels and improve the stability of the local energy supply. This aligns with the CCDP goal of creating a resilient and self-sufficient energy system that can support the county's long-term development needs. The Proposed Development aligns with the Clare County Development Plan 2023-2029 in relation to 'Biodiversity Enhancement', where section 'F' of Policy Objectives CDP 15.12: Biodiversity and Habitat Protection states: "It is an objective of Clare County Council… To promote biodiversity net gain in any new plans/projects/policies to promote development that leaves biodiversity in a better state than before". These positive measures also contribute to the county's broader goals of promoting biodiversity and ensuring the protection of terrestrial and aquatic habitats. By integrating these measures, the wind farm development not only generates renewable energy but also fosters a healthier ecosystem, benefiting both the environment and the local community. Furthermore, the Proposed Development also aligns with the CCDP's emphasis on protecting and enhancing the natural environment. As shown throughout the EIAR and accompanying reports, chapters such as Chapter 3 - Site Selection and Alternatives Considered, Chapter 9 – Biodiversity and Chapter 15 - Landscape and Visual Impact demonstrate that the Proposed Development has been designed, and will be implemented, in a way that minimizes its impact on the local ecosystem and landscape, incorporating measures to protect wildlife and habitats.

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Item 8.2: Several third-party submissions contend that the Application is premature pending the publication of mapping associated with the recently transposed Renewable Energy Directive III.	The applicant is aware of the requirements of RED III which includes specific timelines around consenting, mapping of renewable energy capacity and identification of Renewable Acceleration Areas (RAAs). Whilst Ireland is behind in terms of meeting specific deadline dates, it is understood that the National Territory Mapping for Renewables was open for public consultation up to the 17th of October 2025. The fact that the National Territory Mapping exercise has not been completed to-date and the likelihood that the identification of the RAA's will likely miss the February 21st, 2026, deadline is not a material consideration for the purposes of this planning application. The site where the turbine array is located is appropriately designated for wind energy development as set out in the Clare County Council County Development Plan which has been subject to Strategic Environmental Assessment and is currently the Statutory plan that ACP must have regard to in determining this application. The designation of RAAs would not change the status of the County Development Plan, the purpose of the RAAs is to apply a more streamlined consenting process for renewable energy project, its purpose is not to restrict the development of renewable energy projects outside of the RAA areas.
Item 8.3: Several observations query the use of the Wind Energy Development Guidelines 2006 (WEDG 2006), arguing that they are outdated and the presence of more modern/recent guidelines (namely the Draft Wind Energy Development Guidelines 2019 (WEDG 2019 and the Wind Turbine regulation Bill 2025).	The 'Wind Energy Development Guidelines 2006' remain valid, and are still the relevant guidelines for the purposes of Section 28 of the Planning and Development Act 2000 (as amended). The 2019 Draft Wind Energy Development Guidelines have not been adopted and will be subject to significant change. Published by the Department of Housing, Planning and Local Government in December 2019, the Draft Wind Energy Guidelines were published for public consultation for a period of 10 weeks until the 19th of February 2020. Whilst the Proposed Development complies fully with the Wind Energy Development Guidelines 2006, it goes beyond the requirements of the Guidelines. For example, the applicant in designing the turbine layout has imposed a four times tip height set back from residential receptors and the Applicant is committed to minimising shadow flicker for the wind farm which far exceeds the requirements of the 2026 Guidelines. Furthermore, Section 8.3.3.2 of Chapter 8 Noise clearly points out why it is not appropriate to apply the Draft 2019 Noise limits on wind farms and clearly sets out that the assessment has been carried out in accordance with current best practice approach.
9. Hydrology	

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Item 9.1: Concerns around safety of Gortglass Lake for: • Water-based recreational activities; • Sedimentation; • nutrient loading; • hydro-morphological change; • eutrophication; • pollution during construction.	Gortglass Lake has been screened out of the Water Framework Directive Assessment (Table 2, Appendix 11.2, Vol. III EIAR Appendices) on the basis of a lack of hydrological connection resulting from topographic separation from the development site. Therefore there is no potential for the concerns to arise.
Item 9.2: Risk to existing watercourses affected by soil disturbance, construction runoff, potential contamination during both construction and operational phases.	Section 11.3 in Chapter 11 - *Hydrology and Water Quality* of the submitted EIAR outlines the existing environment on the Site in relation to Hydrology and Water Quality. Section 11.4 of the same chapter outlines the potential effects on Hydrology and Water Quality associated with the Proposed Development if unmitigated, including unmitigated increase in surface runoff, suspended solids, release of cement-based byproducts, and contamination from wastewater. Section 11.5 in the same chapter outlines the proposed mitigation measures included in the Proposed Development addressing the potential effects. Outlined in this section is the inclusion of a strict 50m buffer applied to all watercourses to protect water quality, and temporary stream diversion channels when necessary to protect aquatic environments and downstream water quality. Further mitigation measures are detailed in this section for all 3 phases of the Proposed Development, and section 11.6 concludes that the residual effects of the Proposed Development on Hydrology and Water Quality after mitigation measures are implemented in full are Not Significant. It also concludes that there will be no perceivable effect on the Shannon Estuary North catchment, (including the Cloon River (EPA Code 27C02) and their tributaries, Lower River Shannon SAC, Clonderalaw Bay pNHA and River Shannon and River Fergus Estuaries SPA, and the Mal Bay Catchment (including the Doonbeg River (EPA Code 28D02) or its tributaries. Chapter 10, Section 10.7.2.4 Control of Sediment Laden Runoff states: The potential effects from silt laden surface water runoff from increased erosion of exposed overburden deposits has been assessed where earthworks and site clearance are proposed and are described in Chapter 11. Details of the proposed Surface Water Management System and mitigation measures are summarised in Chapter 11 and are also outlined in the CEMP in Appendix 2.1 of Vol. III.

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	To minimise the effect to surface water quality, existing drainage (including forestry drainage) will be maintained outside the immediate Site area, and where appropriate, additional Site drainage and settlement ponds will be installed as required prior to construction activities. Silt fencing will be installed in new drainage and monitoring of water quality undertaken during the construction phase. Final drainage will be constructed following the completion of these activities with silt fencing maintained until such time as a vegetation cover has become established. Chapter 11 of this EIAR discusses surface water issues in more detail. Please also refer to NIS response in Section 3.2.4 of this report, specifically Points 2a and 2b and refer to 11.5.1 of Chapter 11 Hydrology and Water Quality ES Chapter (Section 11.5.2.2) and the SWMP.
Item 9.3: Risk of negative impact on wetlands and natural drainage patterns.	The SWMP (Section 2.1) states that the SuDS system consists of a treated multistage treatment train including grassed swales, silt traps and silt fences (within drains and swales), suitably sized settlement ponds, diffuse outflow from settlement ponds, and the continuation of natural flow paths over vegetated areas before entering watercourses. The SWMP (Section 2.1) states that excavations (particularly cable trenches) will have vegetation reinstated using the seed bank, allowing for nutrient retention and minimising suspended solids. The Gortglass Lake has been screened out of the Water Framework Directive Assessment (Table 2, Appendix 11.2, Vol. III EIAR Appendices) on the basis of a lack of hydrological connection resulting from topographic separation from the development site.
Item 9.4: Peat disturbance might lead to sedimentation of downstream watercourses, groundwater pathways might be altered by excavation, turbine foundations, and road construction, and surface water runoff might affect protected habitats.	Section 10.4.7 in Chapter 10 - *Soils, Geology and Hydrogeology* of the submitted EIAR outlines the existing hydrogeology of the Site. Section 10.6 of the same chapter further outlines the potential effects of the Proposed Development on the site, with Section 10.7 outlining the mitigation measures by design and best practice, as well as for the construction, operation, and decommissioning phases. Lastly, section 10.8 details the residual effects of the Proposed Development on Soils, Geology and Hydrogeology. This concludes that following the implementation of mitigation measures, the residual effect significance to the receiving environment would be imperceptible and insignificant during both construction and operation of the proposed development. Sedimentation and increased runoff risks:

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	The SWMP (Section 2.1) states that the access tracks will be constructed using aggregate allowing infiltration thereby reducing formation of runoff. Settlement ponds, interceptor drains (discharging at greenfield runoff rate), swales, check dams, will all be constructed and are stated to allow discharges at or below greenfield runoff rates. This will mitigate the risk of increased hydrological impacts from an increased area of hardstanding surfaces. It is also stated that (for the dewatering of excavations) discharges will be pumped over adjacent lands using filter bags and onto natural vegetation keeping a minimum 20m distance from any drain or watercourse, which will provide some attenuation of nutrients and settlement/retention of suspended solids. Monitoring of the water quality will be carried out as detailed in the SWMP to monitor the efficacy of the measures to mitigate risks form the engineering works and minimise the risk of associated deterioration. Mitigation: The SWMP (Section 2.1) states that the SuDS system consists of a treated multistage treatment train including grassed swales, silt traps and silt fences (within drains and swales), suitably sized settlement ponds, diffuse outflow from settlement ponds, and the continuation of natural flow paths over vegetated areas before entering watercourses. These all treat for suspended solids, discharge at or below greenfield runoff rates and allow for the attenuation of nutrients from the presence of vegetation in the SuDS train, e.g. shallow grassed swales, (as described in Sections 2.1 and 4.4 of the SWMP). The SWMP (Section 2.1) also states that excavations (particularly cable trenches) will have vegetation reinstated using the seed bank, allowing for nutrient retention and minimising suspended solids. Monitoring (and reporting), as detailed in the SWMP, will be carried out to assure the efficacy of the measures to prevent effects from the engineering works (Section 4.5 of SWMP details the monitoring programme). Best practice CIRIA guidance (The SuDS Manual (C753), 2015) will be adhered to in the design, implementation and maintenance of the drainage system (as detailed in Section 2.1 of SWMP). Please refer to the schedule of planning application drawings included in EIAR Vol. III, Appendix 2.3 for the proposed layout of the drainage system and the drainage strategy for the Proposed Development, which will comprise key components of Sustainable Drainage Systems (SuDS).

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	Appointment of an ECOW is outlined in Sections 1, 4.3 and 4.5 of the SWMP, of which the latter section states "an Environmental / Ecological Clerk of Works (EnCoW / ECoW) will be appointed by the Developer with responsibility for monitoring at the Site during the construction phase of the Development. The Clerk of Works will have the authority to temporarily stop works to prevent negative effects on hydrology or to ensure corrective action is taken to mitigate adverse effects".
Item 9.5: Proposed Development's proximity to tidal areas of Clonderlaw Bay and Fergus estuary.	Section 11.5 in Chapter 11 - *Hydrology and Water Quality* of the submitted EIAR details mitigation measures for all 3 phases of the Proposed Development, and section 11.6 in the same chapter concludes that the residual effects of the Proposed Development on Hydrology and Water Quality after mitigation measures are implemented in full are Not Significant. Section 11.6 also concludes that there will be no perceivable effect on the Shannon Estuary North catchment, (including the Cloon River (EPA Code 27C02) and their tributaries, Lower River Shannon SAC, Clonderalaw Bay pNHA and River Shannon and River Fergus Estuaries SPA, and the Mal Bay Catchment (including the Doonbeg River (EPA Code 28D02) or its tributaries.
Item 9.6: Concerns that there may be a lack of peat stability modelling and hydrological assessments.	As part of the EIAR, a robust peat stability assessment (to include findings from both field-based surveys and intrusive ground investigations) was undertaken for the receiving environment (see Chapter 10 - *Soils, Geology and Hydrogeology*, Section 10.4.12 and Appendix 10.1 - Peat Stability and Geotechnical Assessment Report). The results of this assessment, which include the calculation of Factor of Safety (FoS) at 268 no. peat probe locations, indicate a "Negligible and Insignificant" risk of peat landslide for the Site. During the construction phase, best practice mitigation to prevent slope failure will be implemented (see Chapter 10, Section 10.7.2.6 and Appendix 2.1 - CEMP). Post mitigation effect on the underlying geological and hydrogeological receptors is considered to be "Negligible and Insignificant". All peat stability assessments and analyses were undertaken in accordance with current guidelines and best practice approaches.

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	Section 10.4.7.2 in Chapter 10 - *Soils, Geology and Hydrogeology* in the submitted EIAR indicates that groundwater is expected to flow towards the southwest. This is also confirmed by groundwater monitoring data presented in Appendix 10.2 (Vol. III). Lateral groundwater flow is anticipated to be significantly impeded by the geological composition, structure and low permeability of the underlying bedrock deposits. Although the Lower River Shannon SAC and Gortglass Lough are downgradient of the Site, the nature and composition of the bedrock geology indicates that there is limited connectively between the Site and these surface waterbodies. Therefore, any effects caused by the project are likely to be imperceptible. As stated in Chapter 10 - *Soils, Geology and Hydrogeology*, Section 10.7.2.7 - The dewatering of the foundation excavations is not expected to cause interference with domestic wells in the area, due to large offset distances to known wells, relatively shallow depths of excavation and temporary short-term nature of dewatering, if required. To monitor groundwater during the construction phase groundwater monitoring wells will be installed between areas of deeper excavations and sensitive groundwater receptors, such as areas of shallow bedrock. The wells will be used to monitor groundwater levels and quality to assess any potential effects during the construction works. Post mitigation effects on the geological and hydrogeological receptors is considered to be "Negligible and Insignificant".
10. Water Quality	
Item 10.1: Concern for the quality of public drinking water supply from Gortglass Lough.	As stated in Chapter 10, Section 10.7.2.7 - the dewatering of the foundation excavations is not expected to cause interference with domestic wells in the area, due to large offset distances to known wells, relatively shallow depths of excavation and temporary short-term nature of dewatering, if required. To monitor groundwater during the construction phase groundwater monitoring wells will be installed between areas of deeper excavations and sensitive groundwater receptors, such as areas of shallow bedrock. The wells will be used to monitor groundwater levels and quality to assess any potential effects during the construction works. Post mitigation effects on the geological and hydrogeological receptors is considered to be "Negligible and Insignificant".

THIRD PARTY SUBMISSION	RESPONSE
	With regard to potential hydrological effects from the Proposed Development upon Gortglass Lough, the lake has been screened out of the Water Framework Directive Assessment (Table 2, Appendix 11.2, Vol. III EIAR Appendices) on the basis of a lack of hydrological connection (pathway) resulting from the topographic separation from the development site.
Item 10.2: Negative impact on hydrological integrity, groundwater pathway disruption, mobilisation of silt and contaminants, and altered surface water drainage.	EIAR Chapter 10, Section 10.4.7.2 indicates that groundwater is expected to flow towards the west-southwest. This is also confirmed by groundwater monitoring data presented in Appendix 10.2 (Vol. III). Lateral groundwater flow is anticipated to be significantly impeded by the geological composition, structure and low permeability of the underlying bedrock deposits. Although the Lower River Shannon SAC and Gortglass Lough are down gradient of the Site, the nature and composition of the bedrock geology indicates that there is limited connectively between the Site and these surface waterbodies. Therefore, any effects caused by the project are likely to be imperceptible. As stated in Chapter 10, Section 10.7.2.7 - the dewatering of the foundation excavations is not expected to cause interference with domestic wells in the area, due to large offset distances to known wells, relatively shallow depths of excavation and temporary short-term nature of dewatering, if required. To monitor groundwater during the construction phase groundwater monitoring wells will be installed between areas of deeper excavations and sensitive groundwater receptors, such as areas of shallow bedrock. The wells will be used to monitor groundwater levels and quality to assess any potential effects during the construction works. Post mitigation effects on the geological and hydrogeological receptors is considered to be "Negligible and Insignificant". Mobilisation of sediment: Sections 11.4.2.2 and 11.4.2.6 of the EIAR assesses suspended solids associated with construction of the Proposed Development. The effects of the effects on hydrology and water quality will be mitigated with measures detailed in Section 11.5 and in EIAR Vol. III Appendix 11.1, Appendix 11.2 and Appendix 11.3.

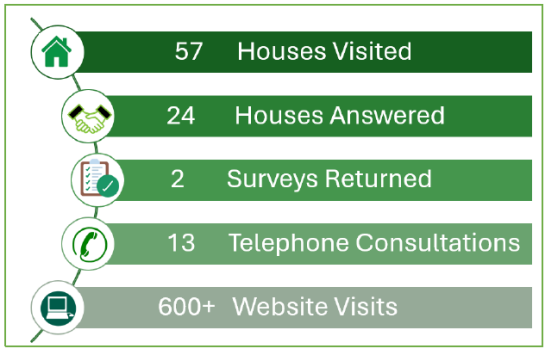
THIRD PARTY SUBMISSION	RESPONSE
	The SWMP (Section 2.1) states that the access tracks will be constructed using aggregate allowing infiltration thereby reducing formation of runoff. Settlement ponds, interceptor drains (discharging at greenfield runoff rate), swales, check dams, will all be constructed and are stated to allow discharges at or below greenfield runoff rates. This will mitigate the risk of increased hydrological impacts from an increased area of hardstanding surfaces. It is also stated that (for the dewatering of excavations) discharges will be pumped over adjacent lands using filter bags and onto natural vegetation keeping a minimum 20m distance from any drain or watercourse, which will provide some attenuation of nutrients and settlement/retention of suspended solids. Refer to drainage design and SuDS best practice and prevention of sediment mobilisation/settlement.
Item 10.3: Local wells have not been accounted for within the EIAR, and the impact on these has therefore not been assessed. Concern for the impact on local wells.	All registered local wells within the Study Area have been taken into consideration (Table 3-5, Appendix 10.2) at the design stage of the Proposed Development, and are accounted for in the submitted EIAR. No likely significant effect is anticipated from the Proposed Development on any of the wells. As stated in Chapter 10 - *Soils, Geology and Hydrogeology*, Section 10.7.2.7 - The dewatering of the foundation excavations is not expected to cause interference with domestic wells in the area, due to large offset distances to known wells, relatively shallow depths of excavation and temporary short-term nature of dewatering, if required. To monitor groundwater during the construction phase groundwater monitoring wells will be installed between areas of deeper excavations and sensitive groundwater receptors, such as areas of shallow bedrock. The wells will be used to monitor groundwater levels and quality to assess any potential effects during the construction works. Post mitigation effects on the geological and hydrogeological receptors is considered to be "Negligible and Insignificant".

THIRD PARTY SUBMISSION	RESPONSE
	Also, in EIAR Vol. III Appendix 9.5 Biodiversity Management & Enhancement Plan (BMEP), Section 2.5 Monitoring Requirements states: *"At pre-construction phase, and prior to the initiation of works in peatland areas, a programme of baseline ecohydrological monitoring will be undertaken in consultation and agreement with landowners and relevant statutory consultees. Works will include a series of groundwater monitoring wells, with in-situ automated data loggers. Within watercourses, in-situ depth gauges will monitor water levels and real-time water quality monitoring is recommended to allow prompt action to amend measures as needed. The three-monthly flow gauge locations used to establish a baseline for planning should be monitored at intervals; the frequency of this monitoring can be agreed with the relevant statutory agencies"*
11. Traffic and Transport	
Item 11.1: Eastern access point to the Proposed Development also serves as an access point for several parties with turbary rights. This access point must be made available to these.	Please refer to Item 2.2 earlier in this table.
Item 11.2: Condition and size of local road network proposed for TDR is inappropriate. Traffic associated with the Proposed Development would deteriorate the condition of the roads and propose risks to local road users.	Please refer to response to similar concern relating to traffic raised by Clare County Council in Section 2.2.5.1 of this report. As outlined in Section 6.7.13 in Chapter 6 - *Population and Human Health* of the submitted EIAR, the construction phase of the Proposed Development is not considered to have a significant effect on Human Health in relation to traffic associated with the Proposed Development due to the proposed mitigation measures. The Section outlines: Road closures or diversions associated with the Proposed Development will be in accordance with national legislation including the Road Traffic Act 1993 (S.I No.75 of 1993). Furthermore, as part of the Traffic Management Plan (EIAR Vol. II, Appendix 2.1, Section 4.3.7 – Traffic and Transportation), any road closures required must be in accordance with local authority licence and any abnormal loads must be transported in accordance with Road Traffic (Permits for Specialised Vehicles) Regulations 2009 requiring a An Garda Siochana to grant permission to move abnormal loads as defined on inter-urban routes specified in the Schedule of Designated Roads in above Regulations require independent authorization from the Local Authority concerned and or Minister for Transport.

THIRD PARTY SUBMISSION	RESPONSE
	Chapter 13 of the submitted EIAR further outlines the approach of the Proposed Development in relation to traffic and transportation. Section 13.7 of the chapter outlines the mitigation measures proposed to ensure the safety of the roads and transportation, and section 13.8 details the residual effects on roads and transportation associated with the Proposed Development after the implementation of mitigation measures in full. Lastly, section 13.9 in chapter 13 also examines and outlines the cumulative effects on roads and transportation associated with the Proposed Development when examined cumulatively with nearby existing or permitted developments. Chapter 13 concludes that there are no likely significant impacts on the receiving environment in relation to traffic and transportation as a result of the construction, operation and decommissioning of the Proposed Development. Following implementation of mitigation measures outlined in chapter 13, residual impacts during the construction phase will be reduced and assessed as 'slight to moderate' in significance. Impacts during operation and decommissioning are considered imperceptible to not significant. There are no significant cumulative impacts expected on the receiving environment as a result of other existing or Proposed Development.
Item 11.3: Risk of subsidence as a result of road usage associated with the Proposed Development.	The road usage associated with the Proposed Development is temporary in nature, as described in EIAR Vol. III, Chapter 13 - Traffic and Transportation of the submitted EIAR. A road condition survey will be carried out prior to construction, in line with the submitted CEMP. The developer has also committed to road reinstatement as required post-construction of the Proposed Development.
12. Peat Stability	
Item 12.1: Concern for peat stability, lack of peat probing at every turbine location.	Peat depths at the proposed turbine locations were extensively assessed through a comprehensive program of 268 peat probes, conducted either directly at or immediately adjacent to each turbine position. These are detailed in Appendix 10.1 of the submitted EIAR. The resulting peat depth heat map is presented Figure 10-15 (Vol. IV). The peat probing was further supplemented by 49 no. trial pits and 5 no. rotary core boreholes (see Figure 10-16, Vol. IV). These investigations give significant coverage of the Site allowing the assessment to adequately determine ground and groundwater conditions for the purposes of this development.

THIRD PARTY SUBMISSION	RESPONSE
	In addition to on-site surveys, a robust peat stability assessment (to include findings from both field-based surveys and intrusive ground investigations) was undertaken for the receiving environment (see Chapter 10 - *Soils, Geology and Hydrogeology*, Section 10.4.12 and Appendix 10.1 - *Peat Stability and Geotechnical Assessment Report*). The results of this assessment, which include the calculation of Factor of Safety (FoS) at 268 no. peat probe locations, indicate a "Negligible and Insignificant" risk of peat landslide for the Site. During the construction phase, best practice mitigation to prevent slope failure has been included (see Chapter 10, Section 10.7.2.6 and Appendix 2.1 - CEMP). Post mitigation effect on the underlying geological and hydrogeological receptors is "Negligible and Insignificant". All peat stability assessments and analyses were undertaken in accordance with current guidelines and best practice approaches.
Item 12.2: Missing peat stability assessment.	See EIAR Vol. III, Appendix 10.1 Peat Stability and Geotechnical Assessment Report (GAR) for details of the peat stability assessment.
Item 12.3: Risk of subsidence.	As detailed in Section 10.6.2.2 (Chapter 10), all proposed foundations will be founded on a suitable bearing stratum, such as fine-grained till or bedrock. While till was typically encountered at depths of <3m, any excavations requiring depths of 3-5m will utilize engineered fill (soil replacement) to return the foundation to near-surface level. This design approach effectively mitigates any risk of subsidence. The sole exception is Turbine T01, where peat depths reached 6.65m; here, a piled foundation solution will be employed, end-bearing directly into the underlying bedrock.
Item 12.4: Risk of peat stability impact on lake ecosystems.	**See response to Item 12.1** - post mitigation effect on the underlying geological and hydrogeological receptors is "Negligible and Insignificant". It should be emphasized that there is no viable source-pathway-receptor linkage between the peatlands within the Site and Gortglass or Cloonsnaghta Loughs. The on-site streams are entirely disconnected from these lakes. Furthermore, the intervening upland terrain to the south acts as a natural topographic barrier, physically preventing any peat movement or runoff from the Site toward the loughs.

THIRD PARTY SUBMISSION	RESPONSE
13. Community Engagement	
Item 13.1: Concerns around lack of communication and consultation throughout the process.	The Applicant welcomes all feedback/submissions on the proposed development in Cloonkett, County Clare and has considered all submissions in detail, including those from 47 third parties. The Applicant notes that some third-party submissions suggest there was none/ very little public consultation, we respectfully refute. However, most of them acknowledge they were aware of the project, received letters, project brochures and were aware of the public clinics scheduled by the Applicant in May 2025. The public clinics were advertised on the Cloonkett Green Energy website, and letters were sent to all residents living within one kilometre (1km) of the proposed development inviting them to book/ attend the clinics. It is beyond the control of the Applicant if they did not attend. The Community Engagement Milestones are detailed in the EIAR Vol. III Appendix 5.4, and discussed in EIAR Vol. II., Chapter 5. EIA Scoping & Consultation, Section 5.4 Community Consultation and Public Information Events (see Table 1, Appendix 5.4 Furthermore, as presented in EIAR Vol. III, Appendix 5.4 the community engagement plan was initiated in 2023 and has been ongoing for over 24 months prior to the Planning submission (30/09/2025). The Applicant appointed a dedicated Community Liaison Officer (CLO) in 2023 who designed and implemented a comprehensive public engagement strategy for the proposed development. The CLO, with other colleagues from Cloonkett Green Energy Ltd., engaged with local residents directly through door-to-door in-person house calls, and they hand delivered, or posted information letters and leaflets to residents who were not available/ at home when they visited in-person. Also, in 2023 the CLO set up and monitored a dedicated telephone number that was advertised on the leaflets, letters, brochures printed advertisements in newspapers (e.g. Clare Champion) and on the project website which was live (Sept. 2023). EIAR Vol. III, Appendix 5.4, Figure 9 provides a summary of the community engagement:

THIRD PARTY SUBMISSION	RESPONSE
	 **Figure 9.** Summary of Engagement by the Community Liaison Team. Additionally, the CLO set up and monitored a project specific email account to ensure that local residents and all public queries were monitored, logged, recorded and prompted sent a response to ensure those who contacted the Applicant were thoroughly informed of the proposed development. A series of public consultation clinics were scheduled and advertised in May 2025; the project website "Update" section noted: *April, 2025: Community Clinics* *We are pleased to announce that Cloonkett Green Energy will be hosting a series of Community Clinics throughout May, offering local residents the opportunity to meet with our Community Engagement Team to find out more about this renewable energy project.* *These clinics will help local residents learn more about the proposed project, ask questions and share feedback to our team in a one-on-one setting.* *To book your appointment, please email info@cloonkettgreenenergy.ie or call 061 975 200. We look forward to meeting you soon.* The website for the proposed development, www.cloonkettgreenenergy.ie serves as a central information hub about the proposed development, offering downloadable versions of all circulated information materials and project updates. The full planning application was uploaded for transparency and ease of public access (https://cloonkettgreenenergyplanning.ie/ , 30/9/2025). This website will continue to be updated to keep the local community, and the general public informed about project progress.

THIRD PARTY SUBMISSION	RESPONSE
	As discussed in the EIAR Vol. II, Chapter 5 Section 5.4, the structure of the engagement process, and the methodologies implements are consistent, and aligned with relevant policy, guidance and best practice. This Section of the EIAR contains a series of sub-sections describing the various communication channels implemented including: 5.4 Community Consultation and Public Information Events 5.4.1 Information Service 5.4.2 Project Information – Leaflets, Brochure, and other resources 5.4.3 Elected Members Engagement 5.4.4 Door to Door Community Engagement 5.4.5 Community Engagement Clinics 5.4.6 Media Outreach/Interaction 5.4.7 Website/Webpage 5.4.8 Summary of Key Issues Raised During Public Consultation The various communication and engagement streams have facilitated open, ongoing engagement between the community, elected representatives, relevant statutory agencies and the project team. See EIAR Vol. II, Appendix 5.4 Community Report, Table 1. Summary of the Stages of Community Engagement by Cloonkett Green Energy. Cloonkett Green Energy Ltd have prepared and submitted a Community Engagement Report as part of this planning application (see EIAR Vol. III, Appendix 5.4). This provides a summary of the approach applied to community consultation for the proposed development, and demonstrates it is aligned with the current Wind Energy Development Guidelines (DoHLG, 2006) and the Draft Revised Wind Energy Guidelines (DoHPLG, 2019). Therefore, as outlined above and detailed in the EIAR (Chapter 5, Appendix 5.4) Cloonkett Green Energy have demonstrated the considerable commitment to engaging with the local residents, the wider community, elected representatives and relevant statutory agencies throughout the pre-planning process. By proactively engaging with residents through various communication channels/media, Cloonkett Green Energy has demonstrated a genuine commitment to open dialogue with the community, and ensuring that community feedback underscores our commitment to transparency and accountability.

THIRD PARTY SUBMISSION	RESPONSE
14. Aviation Safety Impacts	
Item 14.1: Concern around radar infrastructure disturbance and proximity to Shannon airport.	Please refer to response to AirNav submission in section 4.1.1.1 above. For further details please refer to Appendix 16.1 - *Cloonkett Wind Farm Aviation Review Statement*, and Appendix 16.2 - *Electromagnetic Interference (EMI) Impact Assessment* of the submitted EIAR.
Item 14.2: Potential obstacles on rescue-flight routes and lighting glare potentially hazardous to night operations.	Please refer to response to AirNav submission in section 4.1.1.1 above. For further details please refer to Appendix 16.1 - *Cloonkett Wind Farm Aviation Review Statement*, and Appendix 16.2 - *Electromagnetic Interference (EMI) Impact Assessment* of the submitted EIAR.
15. Other Topics	
Item 15.1: OS mapping used in the Application was outdated, and did not show all existing residential properties in the vicinity.	The OSI mapping used within the submitted EIAR was the latest dataset available from Taillte Éireann at the time of submission, reproduced under licence from the Ordnance Survey Ireland Licence No. CYAL50368274 © Government of Ireland.
Item 15.2: Cumulative Impact Assessment should have been carried out.	Chapter 1 of the EIAR clearly sets out the approach to Cumulative Impact Assessment. Each chapter of the EIAR includes proposed projects which are in the zone of influence of the project and assesses those projects cumulatively with Cloonkett Wind Farm.
Item 15.3: An SEA should be carried out.	The Clare County Development Plan which was used to inform the site selection process and the design of the Project has been the subject of an SEA. Therefore the project aligns with the plan-led approach governed by the EU SEA Directive.
Item 15.4: Questions on the validity of the Application on the grounds that it is inconsistent with various provisions of the Planning and Development Act 2000 (as amended) and the Planning and Development Regulations 2001 (as amended).	Each of the issues relating to this Item are addressed in turn below:

THIRD PARTY SUBMISSION	RESPONSE
Item 15.4.1 Inconsistent with Section 34 of the Act – The observer alleges that the Application is inconsistent with the abovementioned section of the Act and should therefore be found to be invalid.	The Proposed Development was deemed to constitute a Strategic Infrastructure Development following the close-out of Pre-Application consultations with An Coimisiún Pleanála. As such various provisions of Section 34 of the Act are not applicable as the application for permission for development was made under Section 37E of the Act. This includes, inter alia, the requirement for submitting 6 no. copies of an Application and applying to the Planning Authority, instead the Application is submitted directly to An Coimisiún Pleanála whom also determine the number of copies required (in this case that was 2 no. hard copies and 8 no. soft copies). Within the observation there are numerous references to the 'permission regulations' and whilst the document that this citation is referencing is unclear, we assume that this relates to the Planning and Development Regulations 2001. There are accusations that the application is inconsistent with Section 22 and Section 23 of these Regulations which is categorically incorrect. This is supported by An Coimisiún Pleanála deeming the Application Complete and Valid. If the Application been non-compliant with these regulations, this would have resulted in it not passing the completeness check process.
Item 15.4.2 *"Thereafter there is a series of 9 No. 1:2500 SITE LOCATION MAPs. The key to these is a 1:100,000 illegible key which does not number the "Site Location Maps"*	The drawing scales submitted were agreed with ACP in advance of submission of the application for consent. The Regulations do not require key plans to be of a certain scale. As this Application relates to an extensive site, a scale of 1:100,000 was identified as appropriate to illustrate the extent of the site and the locations addressed by the specific drawing in the series (outlined in red hatching)
Item 15.4.3 *"P22-125-0500-0003 is stated to be sheet 3 of 23. There are not 23 sheets in the 500 series nor are the 104 series numbered as part of the 23 sheets"*	We are unsure what the observer is identifying in this comment. Firstly, the 500 series and 104 series are to separate drawing series, one dealing with general site layout plans and the other focusing specifically on the layouts of the Site Access points. Secondly, the 500 series drawings do contain 23 no. sheets as identified on the individual drawings as well as the drawing index sheet.
Item 15.5: Potential risk of disturbance of broadband and television as a result of the Proposed Development.	A detailed assessment on potential impacts associated with the Proposed Development on broadband, television, and general telecommunications has been conducted and can be found in Chapter 16 - *Material Assets, Telecommunications and Aviation* of the submitted EIAR. Robust mitigation measures are proposed within the Chapter, which will result in interference with the above being unlikely. The primary mitigation measures are included in mitigation by design. The Proposed Development has also been thoroughly assessed by Ai Bridges for any potential Electromagnetic Interference (EMI) with telecommunications and broadcasting systems in or near the Proposed Development site.

THIRD PARTY SUBMISSION	RESPONSE
Item 15.6: Ancient Crannog on the island at Gortglass lake and promontory fort adjacent to it, within 1km of the nearest turbine. This is not mentioned in the EIAR. The Crannogs expected hinterland would stretch into the windfarm site.	There are no recorded monuments of this description recorded on the national monuments service public website. All recorded monuments and structures within the study area of the Proposed Development have been assessed in Chapter 14 - *Archaeology, Architectural and Cultural Heritage* in the submitted EIAR, and a *Cultural Heritage Photographic Record* is further detailed in Appendix 14.1 of the submitted EIAR. The Proposed Development will not result in any significant direct effects on any known cultural heritage constraints. Also, the location of Gortglass lake is some distance removed from the proposed development with no hydrological connection between the Site and Gortglass lake.
Item 15.7: Concerns are raised around 3 no. residential properties which are claimed to be left out or unaccounted for in the mapping and assessments within the submitted EIAR. One further property is alleged to be left out, and is claimed to be a derelict property within 600m of a turbine.	Frank Ranalow claims that his property is 450m from T10. There are a cluster of buildings located 600m-750m south of T10. It is noted that the closest Eircode data within this cluster is to the south, approximately 708m from T10. This was identified in the EIAR assessments as Property ID 138. The planning status of the cluster of buildings is unknown with no planning records of a dwelling house at this location. It is noted that one submission Noel King alleges that T14 is located a distance of 588m to the curtilage of his dwelling. Whilst the Observers property ownership may extend closer to turbine T14, a GIS based assessment was applied in the EIAR and it can be substantiated that the curtilage of the residential receptor is 622m from T 14 which is in excess of 4 times tip height set back. This was identified in the EIAR assessments as Property ID 233. It is noted that one submission Rita O'Dea alleges that her dwelling is within 600m of a proposed turbine location. This property was identified in the submitted EIAR assessments as Property ID 227. Based on a GIS assessment of distance to nearest turbines, Property ID 227 is 619m from T8 as the nearest turbine to dwelling. This is in excess of the 600m setback distance. In relation to the John Hehir submission, there would appear to be a cluster of farm structures at this location which is c. 375m from T14. This is not identified as a residential receptor and no EirCode associated with them, as there is no habitable dwelling at this location. There is an outline of a potential ruinous structure proximate to the farm buildings. Please refer to accompanying Appendix 2, which contains mapping with the properties in question highlighted, and their distance from the nearest turbine.

FEHILY TIMONEY

DESIGNING AND DELIVERING A SUSTAINABLE FUTURE

APPENDIX 1

ACP Correspondence

https://uss.ftco.ie/DMS/view_document.aspx?ID=1253953&Latest=true

..\..\..\Downloads\FW_ Cloonkett Wind Farm (ACP Ref. 323783) - Response to Submissions Timeline .pdf

Our Case Number: ACP-323783-25
Your Reference: Cloonkett Green Energy

An Coimisiún Pleanála

FEHILY TIMONEY & Co.
Distribution TB
16 JAN 2026
Job No:
Correspondence No: P22-125
Comment: 1

Fehily Timoney and Company c/o Trevor Byrne
Core House
Pouladuff House
Co. Cork
T12D773

Date: 15th January 2025

Re: Planning permission for Cloonkett Wind Farm consisting of 14 no. wind turbines, a permanent 220kV substation and ancillary development located in the townlands of Carrowreagh East and West, Cloondrinagh, Cloonkett, Burrenfadda, Shessiv, Craghera, Glenconaun More and Ballyduneen, County Clare.

Dear Sir/ Madam,

I have been asked by the Commission to refer further to its letter dated to you on the 22nd December 2025 which is enclosed for your information.

Enclosed is a USB copy of the submissions received by the Commission in relation to the above-mentioned proposed development.

Please note your response to these submissions must be received by the Commission on or before the **16th February 2026.**

If you have any queries in relation to the matter, please contact the undersigned officer of the Commission.

Please quote the above mentioned An Coimisian Pleanala reference number in any correspondence or telephone contact with the Commission.

Yours faithfully,

Lauren Murphy
Executive Officer
Direct Line: 01-8737275

Teil	**Tel**	(01) 858 8100
Glao Áitiúil	**LoCall**	1890 275 175
Facs	**Fax**	(01) 872 2684
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Baile Átha Cliath 1
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64 Marlborough Street
Dublin 1
D01 V902

Our Case Number: ACP-323783-25

Your Reference: Cloonkett Green Energy

An Coimisiún Pleanála

FEHILY TIMONEY & Co.

Distribution

16 JAN 2026

Job No:

Correspondence No.

Comment:

Fehily Timoney and Company c/o Trevor Byrne
Core House
Pouladuff House
Cork
Co. Cork
T12D773

Date: 22 December 2025

Re: Planning permission for Cloonkett Wind Farm consisting of 14 no. wind turbines, a permanent 220kV substation and ancillary development
located in the townlands of Carrowreagh East and West, Cloondrinagh, Cloonkett, Burrenfadda, Shessiv, Craghera, Glenconaun More and Ballyduneen, County Clare.

Dear Sir / Madam,

Enclosed is a copy of 55 submission(s) received by the Commission from the following in relation to the above mentioned proposed development:

The Commission hereby considers it appropriate to invite you to make a submission on the observations received in relation to the application. Please be advised that any response to the Commission's invitation should not contain any additional reports or supplementary reports and should be confined to the issues raised in the observations received by the Commission. Any submission in relation to the above must be received by the Commission within 8 weeks from the date of this letter (i.e. not later than **16th February 2026**).

If you have any queries in relation to the matter, please contact the undersigned officer of the Commission

Please quote the above mentioned An Coimisiún Pleanála reference number in any correspondence or telephone contact with the Commission

Yours faithfully,

Lauren Murphy

Lauren Murphy
Executive Officer
Direct Line: 01-8737275

PA08A

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Ríomhphost	Email	communications@pleanala.ie

64 Sráid Maoilbhríde
Baile Átha Cliath 1
D01 V902

64 Marlborough Street
Dublin 1
D01 V902

From: Jim Hughes
To: Jim Hughes
Subject: FW: Cloonkett Wind Farm (ACP Ref. 323783) - Response to Submissions Timeline
Date: Friday 27 February 2026 14:56:36
Importance: High

From: SIDS <sids@pleanala.ie>
Sent: Wednesday 28 January 2026 13:55
>
Subject: RE: Cloonkett Wind Farm (ACP Ref. 323783) - Response to Submissions Timeline

Hi Evan,

I have been asked by the Commission to respond to your email dated 28th January 2026.

Upon review the Commission has deemed it appropriate to extend the response deadline to the **27th February 2026** (6 weeks from the reissue date).

Kindest Regards,

Lauren Murphy
Executive Officer

Subject: Cloonkett Wind Farm (ACP Ref. 323783) - Response to Submissions Timeline

Dear Sir/Madam,

I am contacting you in relation to the Cloonkett Wind Farm Project (ACP Ref. 323783) which was submitted towards to the end of September last year. I was on the phone to your colleague Jonathan yesterday afternoon, who advised me to put my query in writing to this email address.

On the abovementioned project, the deadline for the submission of observations elapsed on the 26th of November, and subsequently I believe a Letter was issued from your offices to us on the 22nd of December inviting the Applicant to respond to same by the 16th of February (which arrived at our offices on the 14th of January c. 2.5 weeks after it was issued). However, we did not receive this letter for quite some time, and we submitted a formal request on the 9th of January for the letter to be redated and reissued. We received the revised letter on Friday the 16th of January, however, the deadline for responding to submission remained the same. We were of the understanding that the submission period would also be redated to reflect 8 weeks from the date of issue which in this instance would be 8 weeks from the 15th of January.

In line with this, we respectfully request that the deadline for the Applicants response to observations is extended given the significant passage of time from when initial correspondence was issued to when the issue was resolved and formal correspondence was received – this is a significant amount of time amounting to almost 4 weeks, which is half of the period which the Applicant has to respond to the observations.

If you've any questions or queries please do not hesitate to contact me.

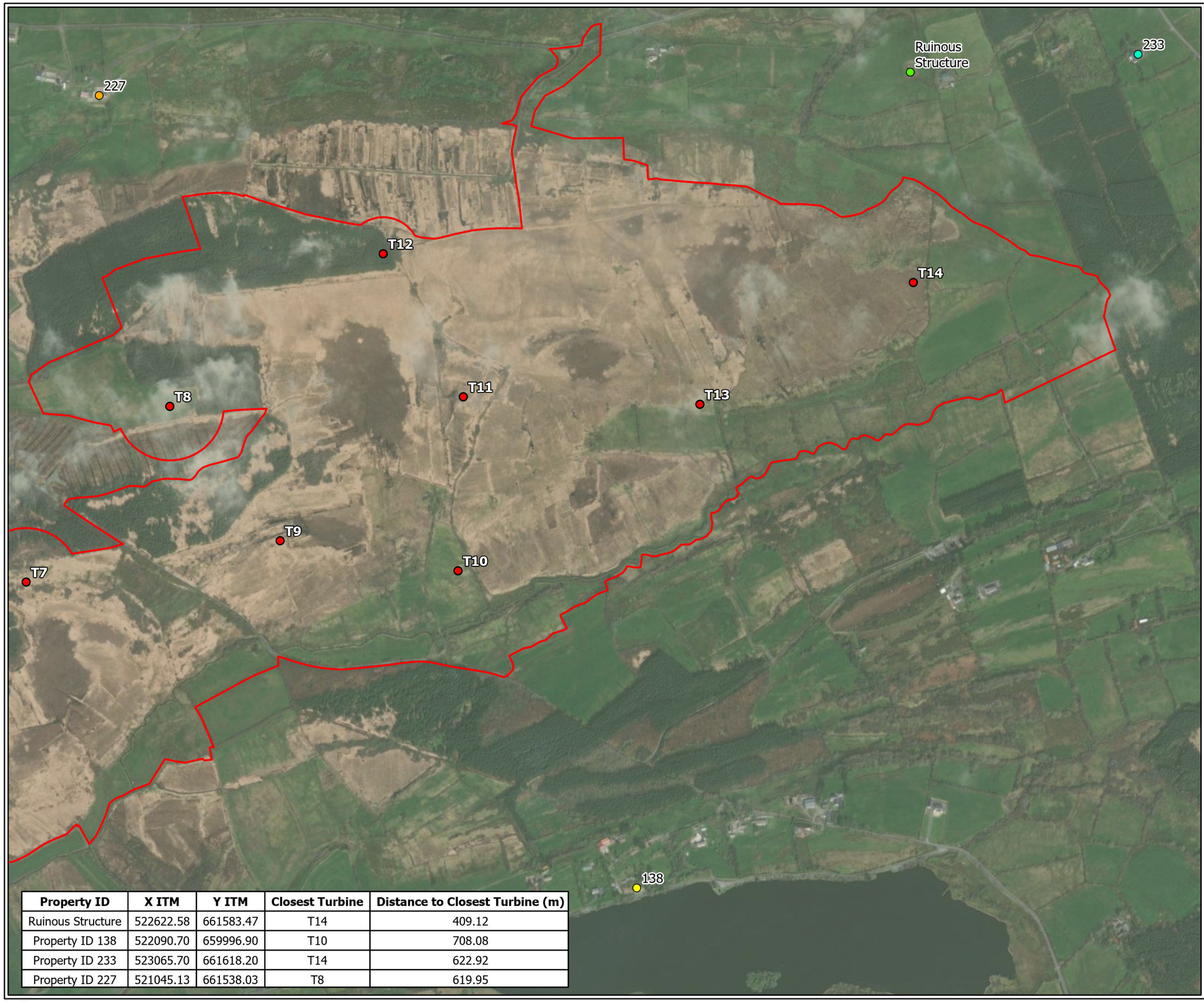
Kind Regards,

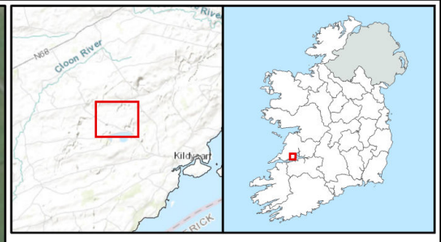
FEHILY TIMONEY

DESIGNING AND DELIVERING A SUSTAINABLE FUTURE

APPENDIX 2

Receptor Figure





Legend

- Planning Boundary
- Property ID 138
- Property ID 227
- Property ID 233
- Ruinous Structure
- Turbine Locations

Property ID	X ITM	Y ITM	Closest Turbine	Distance to Closest Turbine (m)
Ruinous Structure	522622.58	661583.47	T14	409.12
Property ID 138	522090.70	659996.90	T10	708.08
Property ID 233	523065.70	661618.20	T14	622.92
Property ID 227	521045.13	661538.03	T8	619.95

N W E S

0 0.25 0.5 1 Kilometers

TITLE: House Locations Relative to Turbines			
PROJECT: Cloonkett Response to Submissions			
FIGURE NO:	INFO		
CLIENT:	Greensource		
SCALE:	1:7,250	**REVISION:**	0
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