Chapter 19 Addendum: Onshore Biodiversity

ORIEL WINDFARM
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ORIEL WIND FARM PROJECT

Environmental Impact Assessment Report – Addendum
Chapter 19 Addendum: Onshore Biodiversity

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19 CHAPTER 19 ADDENDUM - ONSHORE BIODIVERSITY

19.1 Introduction

This Addendum provides information to supplement the assessment of onshore biodiversity presented in chapter 19 of the Environmental Impact Assessment Report (EIAR) (2024) (volume 2C). It has been prepared in response to a Request for Further Information (RFI) from An Coimisiún Pleanála (ACP) (formerly An Bord Pleanála) regarding the planning application (case reference ABP-319799-24) for the Oriel Wind Farm Project (hereafter referred to as "the Project").

Table 19A-1 outlines the specific information requested according to the referencing used in the 'Schedule-Further Information Request' provided by ACP (e.g. 19.A which refers to terrestrial habitats). Table 19A-1 also indicates where the corresponding information / responses can be found within this Addendum to chapter 19 and provides a concluding statement on any resulting updates or changes to the assessment presented in the EIAR (2024). Additionally, Table 19A-2 and Table 19A-3 outline specific information requested on offshore ornithology (RFI 7) and bats (RFI 14) which are also relevant to onshore biodiversity and this Addendum.

The section and subsection headings in this Addendum correspond to those used in chapter 19: Onshore Biodiversity (EIAR volume 2C). The reader is directed to review the information presented in this Addendum alongside the assessment presented in the EIAR chapter.

Table 19A-1: Further information requested on Onshore Biodiversity and details on Applicant's response.

Reference	Request for Further Information	Response / Reference where information is presented	Concluding statement
1.C	The applicant is requested to confirm whether any on-going or additional surveying has been carried out since the application was lodged and, if so, the applicant is invited to submit any further survey data results and update the planning application documentation, as appropriate.	A number of site-specific surveys (habitats and flora, bats, badger, otter, birds, freshwater) have been undertaken since the application was lodged. These are summarised in section 19.6.3, and detailed in appendix 19-1 Addendum: Onshore Biodiversity – Supporting Information (EIAR volume 2C Addendum).	The updated baseline environment for flora, bats, badger, otter, birds, and freshwater has not resulted in any changes to the assessment or conclusions presented in chapter 19: Onshore Biodiversity (EIAR volume 2C). In relation to habitats, and as a result of the realignment of the onshore cable route between the M1 and the onshore substation site to address concerns of TII (see chapter 5 Addendum: Project Description (EIAR volume 2A Addendum)) and the requirement to remove vegetation, WD1 (Mixed) broadleaved woodland (along the N33) was identified as an IEF. A description of the potential effects on WD1 (Mixed) broadleaved woodland is provided in section 19.10.2 of this Addendum, which concluded the effect of removal and/or fragmentation of habitats during the construction phase of the Project to be not significant.
19.A	The proposed landfall for the offshore cable is located within the Dunany Point pNHA (Site Code: 001856), and within a Sedimentary Sea cliff habitat as detailed in the EIAR (Appendix 19-01). The EIAR also identifies that the offshore cable corridor comes on shore 'at a shingle bank extending from the scrub (WS1) and dry calcareous and neutral grassland (GS1) habitats to below the High-Water Mark (HWM). Vegetation was restricted to the upper section of shingle and contained a single species of rare occurrence, curled dock Rumex crispus. Below the shingle bank a tidal mudflat and sandflat was present.' The Board notes that the occurrence of shingle beach adds to the scientific importance of Dunany Point pNHA, and that this habitat is as an Annex I habitat in the Habitats Directive.	-	-
	i) The DAU considers that the description of onshore habitats is limited in the EIAR, and that sections of the cliff habitat at and in the vicinity of the Dunany Point landfall might correspond to annexed habitat Vegetated sea	See section 19.6.3 which provides further information on the additional habitat surveys undertaken and section 19.7, which provides further information on the description of the habitat.	Following a review of the baseline characterisation for CS3 Sedimentary sea cliffs, this habitat meets the requirements (three positive indicator species) for the species composition associated with *vegetated sea cliffs of the Atlantic and Baltic*

Reference	Request for Further Information	Response / Reference where information is presented	Concluding statement
	cliffs of the Atlantic and Baltic coasts [1230]. The applicant is requested to submit further information in this regard, including additional survey/data, to determine if the habitats show characteristics of Annex 1 habitats, at and in the vicinity of the Dunany Point landfall.		*coasts* (1230). However, the repositioning of the Transition Joint Bay (TJB) (options 1 and 2) (see chapter 5 Addendum: Project Description (EIAR volume 2A Addendum)) at the landfall location will now avoid CS3 Sedimentary sea cliffs, therefore avoiding any potential impacts on this habitat. Following a review of the baseline characterisation for CB1 Shingle and gravel banks, this habitat does not meet the requirements for the species composition associated with *perennial vegetation of stony banks (1220)* or *Annual vegetation of drift lines (1210)*. The further information does not change the assessment conclusions presented in chapter 19: Onshore Biodiversity (EIAR volume 2C).
	ii) The impacts to the identified habitats, within this eroding coastline are noted to arise due to the proposed use of dredge/open cut construction technique to allow on-shoring of the cable. This is not considered to be consistent with best practice in terms of management of impacts on intertidal sediment communities. Notwithstanding the inclusion of Section 4.11.3 of the EIAR (Consideration of Alternatives – Offshore cable construction at the landfall) the applicant is advised that the Board is not satisfied that the promotion of this construction technique within these coastal habitats is justified, given that HDD drilling is likely to be less impactful. The applicant is requested to submit a justification for the proposal to use dredge/open cut construction technique to facilitate the on-shoring of the cable in this instance or alternatively update application documentation to provide for HDD to facilitate the on-shoring of the cable and incorporate an assessment of any alternative impact arising throughout the application documentation where relevant.	See section 5.5.9 of chapter 5 Addendum: Project Description (EIAR volume 2A Addendum) which provides further justification on the requirement to use open trench methods for the installation of the offshore cable corridor. As discussed above, the proposed new alignment of the offshore cable corridor and repositioning of the TJB options (within the planning application boundary) will avoid impact on the sedimentary cliff. See also chapter 8 Addendum: Benthic Subtidal and Intertidal Ecology (EIAR volume 2B Addendum) which provides further detail regarding intertidal habitats and a further measure for reinstatement.	As above, the repositioning of the TJB options within the planning application boundary (options 1 and 2) (see chapter 5 Addendum: Project Description (EIAR volume 2A Addendum)) at the landfall location will now avoid CS3 Sedimentary sea cliffs, therefore avoiding any potential impacts on this habitat. There is no change to the assessment or conclusions presented in chapter 19: Onshore Biodiversity (EIAR volume 2C).

Reference	Request for Further Information	Response / Reference where information is presented	Concluding statement
19.A	The responses to the above should be incorporated into the assessment of the landfall of the offshore cable in terms of the significance of the impact on this coastal environment and in terms of the appraisal of Options for the location of the TJB.	Section 19.7.2 provides an updated review of the Important Ecological Features. Following the repositioning of the TJB options and export cable at the landfall, which now avoids Dunany Point pNHA – the assessment of the construction phase impact of the removal and/or fragmentation of the vegetated sedimentary sea cliff at Dunany Point pNHA (section 19.10.2 of chapter 19: Onshore Biodiversity (EIAR volume 2C)) no longer applies.	The assessment as outlined in section 19.10.2 of chapter 19: Onshore Biodiversity (EIAR volume 2C) regarding the removal and/or fragmentation of Dunany Point pNHA, concluded no significant effects. This conclusion remains valid as the works will now avoid the pNHA.
19.B	The Board notes that access to rivers was restricted due to flood conditions during the field survey, and therefore, the aquatic bio-index assessment was not applied in some water bodies. In addition, it is noted that the EIAR addresses this limitation by applying the latest EPA River Q-Values to supplement the assessment of aquatic features. Given the sensitivity of the aquatic habitats and the features they support, together with the fact that the aquatic bio-index assessment was not applied in some waterbodies, the applicant is requested to justify the proposal for open trench crossings of water bodies at three locations, as well as at the landfall location, where HDD might be considered less intrusive and best practice.	Section 19.6.3 provides details on the aquatic surveys completed in 2023 and 2025. It also provides justification for the proposed open cut crossings at stream locations. It should be noted that two streams (A4 and A10 shown on Figure 1-5 in appendix 19-1: Onshore Biodiversity Supporting Information (EIAR volume 2C)) will be crossed using open trench. The cable installation for crossing A1 and A11 will be within the road.	The further baseline information does not change the assessment of these watercourses in chapter 19: Onshore Biodiversity (EIAR volume 2C). The open trench method will not result in significant effects on these two watercourses.

Table 19A-2: Further information requested on Ornithology and details on Applicant's response.

Reference	Request for Further Information	Response/Reference where information is presented	Concluding statement
Terrestrial Bird Species			
7.X	Chapter 19 of the EIAR considers the potential effects of the project on onshore birds and intertidal birds and includes Appendix 19-02: Intertidal Bird Survey and Onshore Bird Survey Reports. The DAU note that the focus of data collection to support the application has been on marine-dwelling avifauna as opposed to land-based avifauna, with knowledge gaps with respect to transboundary and migratory movements of land-based avifauna in Irish waters and beyond. As such, it is noted that no new empirical data have been collected for land-based migratory birds as part of the monitoring programme, to detect and assess the level of bird migration through the proposed development site area. This would provide a better understanding of the potential impact and cumulative	See chapter 11 Addendum: Offshore Ornithology (EIAR volume 2B Addendum), where the Applicant provides a justification as to why no empirical data were required to assess the potential impact on land-based migratory birds. In summary, the Applicant maintains that the application documents have provided a robust and valid assessment of protected bird species which migrate to Ireland.	No change to the assessment or conclusions presented in chapter 19: Onshore Biodiversity (EIAR volume 2C).

Reference	Request for Further Information	Response/Reference where information is presented	Concluding statement
	impacts of the project, and other ORE developments in terms of the Irish Sea. The applicant is requested to address these concerns, including those raised in the DAU submission on the project.		
7.Y	The CRM identifies 3 terrestrial bird species as being vulnerable to wind turbines, including Corncrake (*Crex crex*), Merlin (*Falco columbarius*) and Hen Harrier (*Circus cyaneus*). However, the predictive power of the model employed is low, particularly for species that are not foraging in the offshore area. As such, the use of SOSS2 Migration Assessment Tool (SOSSMAT) may not have incorporated the most up-to-date estimates of flight speeds for migrating species and may not provide robust yearly collision estimates for land-based birds with a high degree of confidence. It is requested that the potential operational impacts of the project on migratory movements/passage of land-based birds and potential options for on-site monitoring of species, etc be addressed within the application documentation.	See chapter 11 Addendum: Offshore Ornithology (EIAR volume 2B Addendum). In summary, the method of assessing migratory movements is via the Strategic Ornithological Support Services (SOSS) Migration Assessment Tool (hereafter referred to as SOSSMAT), or the more recent Woodward *et al.,* (2023), which is based on the same principles as the SOSSMAT tool. The SOSSMAT tool was used to assess migratory movement for the Project. There is no other method to quantify these impacts which has been used within an assessment of an offshore wind farm. The Applicant confirms that the most up-to-date flight speeds, or suitable proxies where specific flight speed data were unavailable, were used for the species assessed, including corncrake (*Crex crex*), merlin (*Falco columbarius*), and hen harrier (*Circus cyaneus*). Therefore, the Applicant maintains that the application documents provide a robust and valid assessment of protected bird species migrating to and from Ireland, in accordance with best practice guidelines.	No change to the assessment or conclusions presented in chapter 19: Onshore Biodiversity (EIAR volume 2C).
7.Z	In terms of proposed works within the intertidal environment, the applicant is requested to clarify the timing of works, particularly in relation to the landfall location. The Board notes that the summary of potential environment effects, mitigation and monitoring (Table 19-18 of Chapter 19: Onshore Biodiversity of the EIAR) indicates that timing of the construction/operational works may influence the magnitude in terms of commuting, foraging, breeding and migratory birds in terms of disturbance and loss or fragmentation of habitat. Noting the measures included in the project, it would appear that the timing of works will be restricted to a very short window. The applicant is therefore requested to submit a draft programme of works which provide a clear intention in terms of mitigating effects on birds.	Clarification regarding the timing of works at the landfall location is provided in section 19.8.2.	No change to the assessment or conclusions presented in chapter 19: Onshore Biodiversity (EIAR volume 2C).

Table 19A-3: Further information requested on Bats in the Marine Environment and details on Applicant's response.

Reference	Request for Further Information	Response / Reference where information is presented	Concluding statement
14.E	In terms of the impacts to terrestrial bats, the Board notes the high activity for bats at the eastern crossing of the River Dee. It is further noted that the development will include the felling of 7 mature trees – BT4, BT5, BT14-18 – all of which have been identified as having low suitability for roosting bats. The Board notes that trees BT14-18 are located within close proximity to the identified 'hotspot' at the eastern crossing of the River Dee. While potential direct effects have been identified to bats in the EIAR, and notwithstanding the disturbance measures included in Table 19-12 of Chapter 19: Onshore Biodiversity of the EIAR, the Board requests further justification in terms of the removal of the above 5 trees which are clustered proximate to this hotspot, together with the removal of the other trees identified, with regard to potential impacts to bats. The potential location for bat boxes, as indicated as an enhancement measure, should also be identified.	The following sections provide information in relation to removal of trees suitable for bat roosting and bat boxes: • Section 19.8.2; and • Section 19.10.6.	No change to the assessment or conclusions presented in chapter 19: Onshore Biodiversity (EIAR volume 2C).

19.2 Purpose of this chapter

There are no changes to EIAR chapter 19: Onshore Biodiversity.).

19.3 Study area

There are no changes to EIAR chapter 19: Onshore Biodiversity.

19.4 Policy context

There are no changes to EIAR chapter 19: Onshore Biodiversity.

19.5 Consultation

Table 19A-4 provides an outline of the topics discussed regarding onshore biodiversity during consultation undertaken since the submission of the application in May 2024.

Table 19A-4: Summary of key issues raised during consultation on onshore biodiversity.

Date	Consultee and type of response	Issue raised	Response to issue raised and/or where consider in chapter
October 2025	National Parks and Wildlife Service (NPWS) –meeting. Discussion of DAU submission and approach to RFI response.	Landfall construction – coastal erosion of cliffs	Updated alignment of the offshore cable and repositioning of the TJB options (within the planning application boundary) at the landfall location will avoid the impact on sedimentary cliff.
		Landfall construction – habitats	The Project proposed to use open cut trenching to install offshore cable in the intertidal area. An ecologist will supervise works. Habitat at the landfall is expected to recover quickly. Justification as to why HDD is not feasible from an engineering perspective was requested from NPWS and it is provided in chapter 5: Addendum: Project Description (EIAR volume 2A Addendum). Measures relating to timing of works at the landfall to reduce disturbance of bird species using adjacent subtidal waters are outlined in Table 19-12 of chapter 19: Onshore Biodiversity (EIAR volume 2C).

19.6 Methodology to inform the baseline

19.6.1 Identification of designated sites

There are no changes to EIAR chapter 19: Onshore Biodiversity.

19.6.2 Desktop study

There are no changes to EIAR chapter 19: Onshore Biodiversity.

19.6.3 Site-specific surveys

In response to RFI 1.C, a summary of the surveys undertaken since the application was lodged are outlined in Table 19A-5 below. The detailed methodologies and results are outlined in appendix 19-1 Addendum: Onshore Biodiversity – Supporting Information (EIAR volume 2C Addendum).

The following guidance was considered in the preparation of onshore biodiversity field surveys: the NRA's Ecological Surveying Techniques for Protected Flora and Fauna during the Planning of National Road Schemes (NRA, 2009), which provides useful information on appropriate survey seasons and methods for many of Ireland's protected species.

Table 19A-5: Summary of site-specific survey data collected in 2024 and 2025.

Title	Extent of survey	Overview of survey	Survey contractor	Dates	Reference to further information
Habitats	Onshore substation site, onshore cable route, fibre optic cable connection and landfall.	Habitat classification to Fossitt (2000).	RPS	June 2024 and May 2025.	Appendix 19-1 Addendum: Onshore Biodiversity – Supporting Information (EIAR volume 2C Addendum).
Protected Flora	Onshore substation site, onshore cable route, fibre optic cable connection and landfall.	Identification of species listed in Flora Protection Order and Red Lists (Wyse *et al.,* 2016; Lockhart *et al.,* 2012).	RPS		Appendix 19-1 Addendum: Onshore Biodiversity – Supporting Information (EIAR volume 2C Addendum).
Invasive alien plants and animals	Onshore substation site, onshore cable route, fibre optic cable connection and landfall.	Identification of Third Scheduled species of European Communities (Birds and Natural Habitats) Regulations 2011 (as amended); the European Communities (EU) (Birds and Natural Habitats) Regulations 2011 (Statutory Instrument (S.I.) 477 of 2011) (as amended); and the EU (Invasive Alien Species) Regulations (S.I. 374 of 2024).	RPS		Appendix 19-1 Addendum: Onshore Biodiversity – Supporting Information (EIAR volume 2C Addendum).
Bat	Onshore substation site, onshore cable route, fibre optic cable connection and landfall.	Preliminary ground level roost assessment and commuting and foraging habitat suitability.	RPS	June 2024 and May 2025.	Appendix 19-1 Addendum: Onshore Biodiversity – Supporting Information (EIAR volume 2C Addendum).
		Bat activity.	RPS	May, July and September 2024.	
Badger	Onshore substation site, onshore cable route, fibre optic cable route connection and landfall.	Identification of setts and field signs.	RPS	June 2024 and February 2025.	Appendix 19-1 Addendum: Onshore Biodiversity – Supporting Information (EIAR volume 2C Addendum).
Otter	Watercourses crossed by onshore cable route.	Identification of holts and field signs.	RPS	July 2025.	Appendix 19-1 Addendum: Onshore Biodiversity – Supporting Information (EIAR volume 2C Addendum).

Title	Extent of survey	Overview of survey	Survey contractor	Dates	Reference to further information
Other protected mammals	Onshore substation site, onshore cable route, fibre optic cable route connection and landfall.	Identification of field signs.	RPS	During all other site surveys.	Appendix 19-1 Addendum: Onshore Biodiversity – Supporting Information (EIAR volume 2C Addendum).
Birds	Onshore substation site, onshore cable route, fibre optic cable route connection and landfall.	Counts, location and activity of breeding birds within suitable breeding bird habitat located within the planning application boundary.	RPS	Monthly between April and July 2025.	Appendix 19-1 Addendum: Onshore Biodiversity – Supporting Information (EIAR volume 2C Addendum).
	Landfall location and intertidal area.	Peak counts within 300 m - 500 m of the landfall location and intertidal habitat including species, behaviour, and location.	RPS	September 2023 to March 2025.	Appendix 19-1 Addendum: Onshore Biodiversity – Supporting Information (EIAR volume 2C Addendum).
	Offshore cable corridor.	Vantage point counts and behaviour within the offshore cable corridor (i.e. between the intertidal survey area and the Offshore Ornithology Study Area/Boat-based and Aeriel Survey Area).	RPS	September 2023 to March 2025.	Appendix 19-1 Addendum: Onshore Biodiversity – Supporting Information (EIAR volume 2C Addendum).
Amphibian and reptiles	Onshore substation site, onshore cable route, landfall, and watercourses crossed by onshore cable route.	Identification of field signs.	RPS	During all other site surveys.	Appendix 19-1 Addendum: Onshore Biodiversity – Supporting Information (EIAR volume 2C Addendum).
Invertebrates	Onshore substation site and watercourses crossed by onshore cable route.	Aquatic survey (rivers and streams).	RPS	July 2025	Appendix 19-1 Addendum: Onshore Biodiversity – Supporting Information (EIAR volume 2C Addendum).
Fish	Watercourses crossed by onshore cable route.	Aquatic assessment survey (rivers and streams).	RPS	July 2025	Appendix 19-1 Addendum: Onshore Biodiversity – Supporting Information (EIAR volume 2C Addendum).

In response to RFI 1.C, aquatic update surveys were completed in 2025 and are detailed in appendix 19-1 Addendum: Onshore Biodiversity Supporting Information (EIAR volume 2C Addendum).

To inform the assessment in chapter 19: Onshore Biodiversity (EIAR volume 2C), 2023 surveys were restricted at site A-2 (River Dee at the N33 bridge) due to flood conditions. Also, a biotic assessment was not possible at site A-2 and A-10. However, biotic assessment was undertaken at all other sites.

Further surveys were completed in 2025. The River Dee at site A-2 was accessible and a biotic survey was undertaken as part of the repeat surveys in July 2025 (see appendix 19-1 Addendum: Onshore Biodiversity – Supporting Information (EIAR volume 2C Addendum)). A Q-value of 3-4 (moderate status) was inferred at this site, which is consistent with the Environmental Protection Agency (EPA) River Q-value used to supplement the assessment.

Biotic assessment was not undertaken at site A-10 due to extremely dense vegetation, stagnant flow and heavy siltation in the channel which significantly hindered the collection of an invertebrate sample. However, biotic assessment was undertaken at site A-9, located approximately 770 m downstream. Given the proximity of site A-10 to site A-9 and similar land use, water quality at site A-10 can be inferred from site A-9. It is acknowledged that the condition of the stream at site A-9 (heavily silted and drained) precluded the calculation of a Q-value at this site. However, the macroinvertebrate community observed at site A-9 (dominated by pollution tolerant species) is consistent with the WFD status assigned to the waterbody by EPA modelling (moderate WFD status). Overall, the lack of biotic assessment at sites A-10 is not considered a limitation to the assessment.

Open trench crossings are proposed at sites A-4 and A-10 only. The crossings at sites A-1 and A-11 will not interfere with the river channel. Site A-4 was subject to detailed survey including biotic assessment in 2023 and 2025. This stream is not considered particularly sensitive – the biotic assessment is indicative of water quality issues, hydromorphology is degraded due to historic straightening/bank modifications and the instream habitat is considered suboptimal for fish species such as lamprey and salmonids. Nevertheless, it was considered possible that the stream could support juvenile salmonids (and in the most recent survey undertaken (July 2025) eel (see appendix 19-1 Addendum: Onshore Biodiversity – Supporting Information (EIAR volume 2C Addendum)). The stream at site A-10 is similarly not sensitive in terms of fisheries habitat, hydromorphology and water quality, and largely resembles a drain.

As set out in the chapter 19: Onshore Biodiversity (EIAR volume 2C), mitigation measures require that all works be undertaken in accordance with Inland Fisheries Ireland (IFI) Guidance on the protection of fisheries during construction works in and adjacent to waters (IFI, 2016), and method statements for crossings will be issued to IFI for agreement. The 2016 guidance provides specific requirements for open cut or trench type crossings, and these shall be adhered to – this includes the temporary removal of any fish present in the affected area. The stream channels will be fully reinstated post works. Given the suboptimal fisheries habitat at both sites (A-4 and A-10), the short-term nature of the works (less than 4 weeks in duration) and the proposal to reinstate habitat post works, the use of open-trench crossings methods is considered reasonable.

Open-trench construction methods will be employed at two identified watercourses: Newhall 06 Stream (A-4) and Port 06 Stream at Clonmore (A-10). Designed-in measures have been detailed in Table 19-13 in chapter 19: Onshore Biodiversity (EIAR volume 2C) to address potential sources of impact.

Regarding the assessment of effects, the removal and/or fragmentation of Important Ecological Features, and surface water run-off carrying suspended silt or contaminants into local watercourses, are fully assessed in section 19.10.2 and 19.10.3 of chapter 19: Onshore Biodiversity (EIAR volume 2C). These effects were deemed to be **Not significant**. As a result, it is proposed that works to traverse these watercourses using open trench methods can be undertaken without significant impact and HDD is not required for these two crossings.

19.7 Baseline environment

In response to RFI 19.A(i), further information regarding habitats at the landfall location to determine if the habitats show characteristics of Annex 1 habitats is provided in section 19.7.2. The following habitats were identified at the landfall location: BC1 Arable crops; CB1 Shingle and gravel banks; CS3 Sedimentary sea cliffs; GS1 Dry calcareous grassland; and WS1 Scrub.

A site specific survey of the habitats at the cliff at Dunany was undertaken by a suitably qualified and experienced botanist with cognisance of the presence of Dunany Point pNHA and the potential for the presence of Annex I habitat on several occasions between 2019 and 2023 (February, July, and October 2019; September 2020; July and November 2022; and April 2023). A specific survey of the Dunany Cliff was

completed in November 2022. Following submission of the application, a survey was also undertaken in May 2025.

A habitat survey was also undertaken along the N33 to assess the habitats along the realigned cable route and these details are discussed in section 19.7.2.

19.7.1 Designated sites

There are no changes to EIAR chapter 19: Onshore Biodiversity.

19.7.2 Important ecological features

Having defined and updated the relevant baseline conditions within the ZoI of the Project (appendix 19-1 Addendum: Onshore Biodiversity – Supporting Information (EIAR volume 2C Addendum)), and following consideration of the realigned onshore cable route (including joint bays 1 to 4) along the existing N33 (see section 19.8.1), WD1 (Mixed) broadleaved woodland has been identified as an IEF (Important Ecological Feature) which is scoped into the assessment of significance due to the risk of negative impact from the Project. This WD1 was planted as part of the development of the N33 and runs along the northern boundary of the N33 between the proposed onshore substation site and the M1.

Following a review of the baseline characterisation for CS3 Sedimentary sea cliffs (section 1.2.2 of appendix 19-1 Addendum: Onshore Biodiversity – Supporting Information (EIAR volume 2C Addendum), the Interpretation Manual of European Union Habitats (European Commission, 2013), and the criteria for assessment of the structure and function of vegetated sea cliffs (1230) (Barron *et al.,* 2011), it is considered that this habitat meets the requirements (three positive indicator species) for the species composition associated with *vegetated sea cliffs of the Atlantic and Baltic coasts* (1230).

However, the repositioning of the TJB (options 1 and 2) at the landfall location, as detailed in section 5.5.9 of chapter 5 Addendum: Project Description (EIAR volume 2A Addendum), will avoid CS3 Sedimentary sea cliffs, therefore eliminating the potential for any impacts on this habitat.

The assessment within chapter 19: Onshore Biodiversity (EIAR volume 2C) considers the impact of fragmentation of habitats within the pNHA and concludes **no significant effect**. This conclusion remains valid considering the information outlined in section 1.2.2 of appendix 19-1 Addendum: Onshore Biodiversity – Supporting Information (EIAR volume 2C Addendum).

Table 19A-6 summarises the identification of IEFs scoped into the assessment of significance (section 19.10) following the completion of the 2024/2025 surveys, based on their ecological evaluation (i.e. whether they are considered important ecological features to be scoped into impact assessment) combined with whether or not they are at risk of significant negative impact from the Project.

These IEFs were included in Table 19-8: Summary valuation of ecological features and identification of features scoped into the impact assessment in chapter 19: Onshore Biodiversity (EIAR volume 2A), but reviewed again in light of the further survey information and changes arising from the realigned onshore cable route and repositioned Transition Joint Bay locations.

Table 19A-6: Summary valuation of ecological features and identification of features scoped into the impact assessment.

Ecological Features		Highest Ecological Valuation within ZoI of the Project	At Risk of Potential Significant Negative Impact	Important Ecological Features (Scoped into Impact Assessment)
Habitats and Flora	WD1 (Mixed) broadleaved woodland	Local (Higher)	Yes. Potential direct effects to these features have been identified, as: • A pathway of removal and/or fragmentation for the feature.	Yes
	CS3 Sedimentary sea cliffs	National	No. Direct or indirect effects to these features are not predicted, as: • The repositioning of the TJB at the landfall location will avoid CS3 Sedimentary sea cliffs, therefore eliminating any pathway or connectivity that could result in potential impacts on this habitat.	No

19.7.3 Future baseline scenario

There are no changes to EIAR chapter 19: Onshore Biodiversity.

19.7.4 Data validity and limitations

Data validity

There are no changes to EIAR chapter 19: Onshore Biodiversity.

Data limitations

There are no changes to EIAR chapter 19: Onshore Biodiversity.

19.8 Key parameters for assessment

19.8.1 Project design parameters

Table 19A-7 outlines the project design parameters that have been used to inform the updated assessment of potential impacts of the construction, operational and maintenance and decommissioning phases of the Project on an identified receptor or receptor group. The removal of vegetation between joint bays 1-4 is included in this potential impact.

The updated layout of the TJB options at the landfall location is outlined in chapter 5 Addendum: Project Description (EIAR volume 2A Addendum). For the purposes of the assessment presented in section 19.10, both TJB options have been assessed.

Table 19A-7: Project design parameters considered for the assessment of potential impacts on onshore biodiversity.

Potential impact	Phase[1]			Project design parameters	Justification
	C	*O*	*D*		
Removal and/or fragmentation of important ecological features	✓	✗	✗	Permanent removal of vegetation and habitats at the onshore substation site, TJB, and joint bays 1 to 4. Temporary removal of vegetation and habitats at passing bays (where located away from the public road), and installation of onshore cable.	The maximum spatial extent of habitats which will be removed (temporarily/permanently) in the planning application boundary.

1 C= Construction, O = Operation, D = Decommissioning

19.8.2 Measures included in the Project

19.8.2.1 Suitably qualified and experienced Ecologist

There are no changes to EIAR chapter 19: Onshore Biodiversity.

19.8.2.2 Construction Environmental Management Plan (CEMP)

There are no changes to EIAR chapter 19: Onshore Biodiversity.

19.8.2.3 Reduction of impact on sites designated for nature conservation

In addition to the measures outlined in chapter 19: Onshore Biodiversity (EIAR volume 2C), the following measures will also be implemented at the landfall location where the offshore cable corridor traverses Dunany Point pNHA and CB1 Shingle and gravel bank habitat:

- Due to the occurrence of CB1 Shingle and gravel bank habitat within a dynamic and changing coastal environment, a pre-construction habitat survey will be undertaken to identify any future potential for this habitat to correspond with Annex I habitat in the Habitats Directive;
- During construction, a suitably qualified and experienced ecologist will supervise the works within Dunany Point pNHA CB1 Shingle and gravel bank habitat, ensuring that CB1 Shingle and gravel habitat

layers including cobble, pebble, gravel and sand required for removal to facilitate the offshore cable corridor, are stored by their respective particle size for later reinstatement; and

- Post-construction, that reprofiling and reinstatement of the affected shingle beach area is completed.

19.8.2.4 Pre-construction surveys

There are no changes to EIAR chapter 19: Onshore Biodiversity.

19.8.2.5 Disturbance measures

In response to RFI 7.Z, clarification regarding the timing of the works within the intertidal area at the landfall location is provided below.

As part of the onshore biodiversity assessment presented in chapter 19: Onshore Biodiversity (EIAR volume 2C), a number of measures are proposed to reduce disturbance impacts on important ecological features. At the landfall location, this includes measures such as timing of the works to avoid potential impacts on both breeding birds (March to August, inclusive) occurring at the landfall location and wintering birds (October to April, inclusive) occurring within the intertidal environment.

In relation to the timing of works to avoid impacts on breeding birds (March to August, inclusive), vegetation removal at the landfall location (location of transition joint bay and onshore cable route) will only occur prior to the breeding bird season (i.e. September to February). In relation to the timing of works to avoid impacts on wintering birds within the intertidal area, works will not occur during this peak season for intertidal birds (October to April, inclusive).

On this basis, and in line with the construction programme outlined in chapter 5 Addendum: Project Description (EIAR volume 2A Addendum), the works at the landfall location (expected duration of approximately 12 weeks) will occur:

- Within the onshore area (i.e. above the High-Water Mark) of the landfall location at any time of year, provided that vegetation removal has taken place outside of the bird nesting season (i.e. September to February); and
- Within the intertidal area at the landfall location between May and September (outside the peak season for intertidal birds).

A proposed programme of works which provide clear intention in terms of mitigating effects on birds is provided in Table19A-8.

Table 19A-8: Programme of works at the landfall location including mitigation on timing of works to avoid impacts on breeding and intertidal birds.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Programme of works at the landfall location												
Trenching and ducting	■	■	■	■	■	■	■	■	■	■	■	■
Landfall installation				■	■	■						
Breeding bird and intertidal bird seasons												
Bird nesting season (March to August)			■	■	■	■	■	■				
Wintering bird season (October to April)	■	■	■	■						■	■	■
Mitigation measures												
Vegetation removal (September to February)	■	■							■	■	■	■
Avoidance of peak season for intertidal birds	■	■	■	■						■	■	■
Proposed timing of works with above mitigation												
Proposed timing for vegetation removal (avoiding breeding birds)	■	■							■	■	■	■
Proposed timing for intertidal works (avoiding intertidal birds)					■	■	■	■				

19.8.2.6 Surface water pollution measures

There are no changes to EIAR chapter 19: Onshore Biodiversity.

19.8.2.7 Removal and/or fragmentation measures

In response to RFI 14.E, justification regarding the removal of trees which are clustered proximate to the eastern crossing of the River Dee in addition to locations of bat boxes, is provided below.

As part of the onshore biodiversity assessment presented in chapter 19: Onshore Biodiversity (EIAR volume 2C), a number of measures are proposed to reduce the potential impacts from destruction and/or fragmentation on the important ecological features.

At the eastern crossing of the River Dee (i.e. Drumcar), several trees were identified as having features suitable for roosting bats. Bat trees BT4, BT5 and BT14-18, were identified as having ‘low’ potential to support bat roosting. These trees are located approximately 100 m to the south east of the River Dee, as described in EIAR appendix 19-1: Onshore Biodiversity – Supporting Information (EIAR volume 2C).

To clarify, the identified ‘hotspot’ is associated with the River Dee corridor, not where the above trees are located. Additionally, these trees are of ‘low’ bat roosting potential and are proposed for ‘soft’ fell to protect any bats that happen to be roosting within them at the time of felling. Although they may support the wider commuting corridor available to local bat populations, their removal is not considered to effect bat activity or the ‘hotspot’ associated with the River Dee.

Additionally, since submission of the application and during baseline update surveys undertaken in June 2024, it was noted that BT15-18 have fallen due to storm events between May 2023 and June 2024 (see appendix 19-1 Addendum: Onshore Biodiversity – Supporting Information (EIAR volume 2C Addendum)).

19.8.2.8 Invasive Alien Plant Species

There are no changes to EIAR chapter 19: Onshore Biodiversity.

19.1.4 Impacts scoped out of the assessment

There are no changes to EIAR chapter 19: Onshore Biodiversity.

19.9 Impact assessment methodology

19.9.1 Overview

There are no changes to EIAR chapter 19: Onshore Biodiversity.

19.9.2 Ecological impact assessment process

There are no changes to EIAR chapter 19: Onshore Biodiversity.

19.9.3 Impact assessment criteria

There are no changes to EIAR chapter 19: Onshore Biodiversity.

19.9.4 Designated sites

There are no changes to EIAR chapter 19: Onshore Biodiversity.

19.10 Assessment of significance

19.10.1 Disturbance from noise, vibration, lighting and human presence

There are no changes to EIAR chapter 19: Onshore Biodiversity.

19.10.2 Removal and/or fragmentation of important ecological features

In relation to habitats, and as a result of the realignment of the onshore cable route between the M1 and the onshore substation site to address concerns of TII (see chapter 5 Addendum: Project Description (EIAR volume 2A Addendum)) and the requirement to remove vegetation, WD1 (Mixed) broadleaved woodland was identified as an IEF. The following additional assessment is provided.

Construction and decommissioning phase

Scoping of impacts

During construction, a potential effect resulting from the impact caused by removal and/or fragmentation of important ecological features has been assessed. The construction impact from removal and/or fragmentation has potential to effect WD1 (Mixed) broadleaved woodland along the N33. The assessment of impacts on this IEF during the decommissioning phase is deemed to be similar but less than those anticipated to that of the construction phase and is not described separately.

Assessment of effects

The construction impact of removal and/or fragmentation of WD1 (Mixed) broadleaved woodland has the potential to affect commuting, foraging and breeding onshore birds. Removal and/or fragmentation of this habitat may result from construction associated with the onshore cable route. The extent of the effect is approximately 2.5 km of WD1 (Mixed) broadleaved woodland associated with the onshore cable route and joint bays 1 to 4 along the existing N33. The magnitude of the effect is likely to be localised disturbance of suitable habitat for commuting, foraging, and breeding birds, including those described in the baseline. The duration of the effect is temporary as vegetation will be allowed to naturally revegetate. In addition to natural

revegetation, within the 5 m wide working corridor which requires removal of WD1 habitat, approximately 2 m of this corridor will be replanted with low-growing shrubs (e.g. wayfaring shrubs (*Viburnum lantana*)). The duration of the effect will extend past the construction timeframe associated with the onshore cable route (joint bays 1 to 4) as the vegetation will take approximately 5 to 10 years to naturally revegetate and/or establish. Therefore, the duration of the impact is considered to be medium-term. The timing of the construction works may influence the magnitude (i.e. works during the bird breeding season).

This effect is considered to be reversible after construction is completed. Due to the magnitude, medium-term nature of the works, and given the extensive occurrence of this habitat along the existing N33 (i.e. effects are not considered significant or far-reaching), the effect of removal and/or fragmentation of habitats during the construction phase of the Project is predicted to be **not significant**.

19.10.3 Surface water run-off carrying suspended silt or contaminants into local watercourses

There are no changes to EIAR chapter 19: Onshore Biodiversity.

19.10.4 Mitigation and residual effects

Following further assessment of the works at the landfall and further consultation with NPWS, the following additional measure has been proposed for the reinstatement of works in the intertidal area:

> Sediment/shingle to be removed will be reinstated by particle size and supervised by an ecologist (also outlined in chapter 8 Addendum: Benthic, Subtidal and Intertidal Ecology (volume 2B Addendum).

19.10.5 Future monitoring

There are no changes to EIAR chapter 19: Onshore Biodiversity.

19.10.6 Enhancement measures

In response to RFI 14.E, the potential location for bat boxes, as indicated as an enhancement measure in chapter 19: Onshore Biodiversity (EIAR volume 2C) are outlined below:

- Bat boxes shall be positioned in groups of two or three on trees and shall be placed at least 3 to 4 m from the ground, facing in different directions, in sheltered, sunny areas, and sheltered from strong winds. Bat boxes positioned on existing structures (e.g. bridges) and structures such as those constructed as part of the existing development (e.g. onshore substation site) should be positioned at least 3 m from the ground;
- Examples of bat boxes that could be installed include:
  - Schwegler Bat Box 2F (trees)
  - Schwegler Universal Bat Summer Roost 1FTH (structures)
  - Schwegler 2FE wall-mounted bat shelter boxes (structures)
- Potential locations for installation include:
  - *Onshore substation site*; mixed broadleaved woodland habitat located along the western boundary, in addition to boundary hedgerows which contain trees suitable for bat boxes (e.g. BT27, BT28 and BT23). Bat boxes should also be installed at the onshore substation site on trees proposed as part of the onshore substation site landscaping.
  - *Existing treelines*; bat boxes should be installed on trees located either side if the existing N33 between joint bays 1 and 8, in addition to trees located along the boundaries of the agricultural field in which joint bay 9 is located.
  - *Individual trees noted as potentially supporting bats* (and which are not proposed for removal); bat boxes should be installed on BT2, BT3, BT6, BT7, BT24, BT25.
  - *Existing structures*; bat boxes should be installed on existing bridges located at Richardstown, Drumcar, Clonmore, Togher and the Coast Road.

19.11 Cumulative Impact Assessment (CIA)

An updated Cumulative Impact Assessment is provided in appendix 3-1 Addendum: Cumulative Impact Assessment Report (EIAR volume 2A Addendum). The assessment concludes that there is no change to the cumulative assessment provided in 19: Onshore Biodiversity (EIAR Volume 2C).

19.12 Transboundary effects

There are no changes to EIAR chapter 19: Onshore Biodiversity.

19.13 Interactions

There are no changes to EIAR chapter 19: Onshore Biodiversity.

19.14 Summary of impacts, mitigation measures and residual effects

Table 19A-9 presents an updated summary of the potential impacts, mitigation measures and residual effects in respect to onshore biodiversity. Changes are shown in blue text.

Table 19A-9: Summary of potential environment effects, mitigation and monitoring.

Description of impact	Phase[1]			Measures included in the Project	Extent	Magnitude	Duration	Timing/Frequency	Reversibility	Signficance of effect	Additional measures	Residual effect	Proposed monitoring
	C	O	D										
Disturbance from noise, vibration, lighting and human presence on ecological features	✓	✓	✓	Timing of the works at the landfall to avoid the peak season for intertidal birds (October to April, inclusive). Timing of vegetation removal works to avoid the bird nesting season (March to August, inclusive). Avoidance of light spill during night-time hours, and badger buffer zones between 30 m and 150 m depending on works type and season.	Within 300 m of the landfall location; entire extent of the onshore infrastructure.	Likely to be localised disturbance of foraging and resting intertidal and migratory birds; localised disturbance of suitable habitat for commuting, foraging, and breeding birds.	Not extend further than the construction timeframe.	Timing of the construction/ operational works may influence the magnitude.	Reversible after construction/operational works are completed.	Not significant	None	None	None
Removal and/or fragmentation of important ecological features	✓	×	×	Timing of the works to avoid the bird nesting season (March to August, inclusive), replacement of all removed hedgerows, natural revegetation and replacement shrub planting of woodland habitat, retention of trees with moderate suitability to roosting bats, and soft felling of trees with low suitability for roosting bats.	~~Approx. 234 m^2 of scrub and vegetated sedimentary sea cliff for trenching associated with TJB option 2, within Dunany Point pNHA~~ Crossings points of these rivers and the upstream and downstream catchments of the waterbodies; approximately 2.2 km of hedgerow associated with the joint bays (5-29) and passing bays; and approximately 2.5 km of WD1 (Mixed) broadleaf woodland located between joint bays 1-4. ~~and 234 m^2 of scrub and vegetation sedimentary sea cliff associated with the TJB option 2~~.	Temporary loss of vegetation and habitat fragmentation within those extents; likely to be temporary and localised habitat fragmentation but is unmeasurable; localised habitat loss and fragmentation of suitable habitat for commuting, foraging and breeding birds.	~~Will extend past the construction timeframe associated with the TJB as the vegetation will take approximately 2 years to reinstate;~~ Not extend further than the construction timeframe; extend past the construction timeframe associated with the onshore cable route ~~TJB~~ as the vegetation will take approximately 5-10 years to reinstate/revegetate to an equivalent usable structure.	Timing of the construction works may influence the magnitude.	Reversible after construction works are completed (hedgerow - 2.2 km); reversible after construction works are complete (Mixed broadleaf woodland - 2.5 km).	Not significant	None	None	All replacement hedgerows/shrub will be maintained for eight years, with seasonal checks by a suitably qualified arboriculturalist/ecologist for the first two years and yearly checks for the subsequent six years. A rate of 90% living individuals after 4 years and 80% living individuals after 8 years will be retained, with replacement planting as required. Any gaps greater than 1 m will be replanted with native tree/shrub species of similar size to those adjacent. Depending on the progression of re-establishment, yearly checks may extend beyond this six-year period. This will be determined by the ecologist.
Surface water run-off carrying suspended silt or contaminants into local watercourses	✓	×	✓	Timing of the instream works to avoid the IFI recommended 'closed season' (October to May, inclusive), and protection of watercourses from siltation, hydrocarbons and other pollutants using suitably material storage, procedures, buffer zones, and sediments control measures.	Crossings points of these rivers and the downstream catchments of the waterbodies.	Likely to be localised water pollution but is unmeasurable.	Linked with the construction timeframe associated with watercourse crossing works	Timing of the construction works may influence the magnitude.	Reversible after construction works are completed.	Not significant	None	None	None

1 C= Construction, O = Operation, D = Decommissioning

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