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MONA OFFSHORE WIND PROJECT

Environmental Statement

Volume 3, Chapter 3: Onshore Ecology (F02)

Deadline: 7

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Image of an offshore wind farm

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Deadline 7 Changes

This document has been updated at Deadline 7 of the Mona Offshore Wind Project examination in order to address the errata included in Errata Sheet (REP4-088).

This document has also been updated at Deadline 7 of the Mona Offshore Wind Project examination in order to reflect the change to the Order Limits, forming the Change Request, which was accepted by the Examining Authority on 19 December 2024.

The following figures have been updated to reflect the updated onshore Order Limit change:

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Glossary

Term	Meaning
Access area	Areas of private land where access had to be sought from the landowner.
Cofnod	North Wales Environmental Information Service
Development Consent Order	An order made under the Planning Act 2008 granting development consent for one or more Nationally Significant Infrastructure Project (NSIP).
Environmental Statement	The document presenting the results of the Environmental Impact Assessment (EIA) process for the Mona Offshore Wind Project.
Evidence Plan	The Evidence Plan is a mechanism to agree upfront what information the Applicant needs to supply to the Planning Inspectorate as part of the Environmental Statement for the Development Consent Order (DCO) application for the Mona Offshore Wind Project.
Evidence Working Group	Expert working groups set up with relevant stakeholders as part of the Evidence Plan process.
Intertidal area	The area between Mean High Water Springs (MHWS) and Mean Low Water Springs (MLWS).
Joint Nature Conservation Committee	A statutory body that advises the UK Government and devolved administrations on UK-wide and international nature conservation.
Landfall	The area in which the offshore export cables make contact with land and the transitional area where the offshore cabling connects to the onshore cabling.
Local Authority	A body empowered by law to exercise various statutory functions for a particular area of the United Kingdom. This includes County Councils, District Councils and County Borough Councils.
Maximum Design Scenario	The scenario within the design envelope with the potential to result in the greatest impact on a particular topic receptor, and therefore the one that should be assessed for that topic receptor.
Mean High Water Spring	The average height of spring high tides, as marked on OS maps
National Policy Statement	The current national policy statements published by the Department for Energy Security & Net Zero in 2023.
Non-statutory consultee	Organisations that an applicant may choose to consult in relation to a project who are not designated in law but are likely to have an interest in the project.
Sites of Special Scientific Interest	An area protected under law for its nationally important biological or geological features.
Special Area of Conservation (SAC)	An area which protects one or more special habitats and/or species, terrestrial or marine, listed in the Habitats Directive.
Special Protection Area (SPA)	An area protected under law for its internationally or nationally important numbers of migratory bird species
Species of Principal importance	Species recognised in Welsh policy and afforded due regard in the planning system by the Environment (Wales) Act 2016, Section 7. Public bodies have a legal duty to conserve such species through their work.
Statutory consultee	Organisations that are required to be consulted by an applicant pursuant to the Planning Act 2008 in relation to an application for development consent. Not all consultees will be statutory consultees (see non-statutory consultee definition).
St Asaph Business Park - Great Crested Newt Steering Group	Steering Group to manage the conservation, management and monitoring of the St Asaph GCN metapopulation of national importance.

Term	Meaning
Wildlife and Countryside Act 1981,	UK legislation which sets out protections for species and habitats.

Acronyms

Acronym/Abbreviation	Description
ARC	Amphibian and Reptile Conservation (Trust).
BAP	Biodiversity Action Plan
BNB	Biodiversity Net Benefit
BSBI	Botanical Society of the British Isles
CCBC	Conwy County Borough Council
CCS	Current Conservation Status
CEA	Cumulative Effect Assessment
CIEEM	Chartered Institute of Environmental Management
CoCP	Code of Construction Practice
DCC	Denbighshire County Council
DCO	Development Consent Order
DECCA	Diversity, Extent, Condition, Connectivity and Aspects of ecosystem resilience
EIA	Environmental Impact Assessment
EPS	European Protected Species
EPS mitigation licences	European Protected Species Mitigation Licence
EWG	Expert Working Group
FCS	Favourable Conservation Status
GCN	Great Crested Newt
HDD	Horizontal Directional Drilling
HRA	Habitats Regulations Assessment
HSI	Habitat Suitability Index
IEA	Institute of Environmental Assessment
IEFs	Important Ecological Feature
INNS	Invasive Non-native Species
ISAA	Information to Support the Appropriate Assessment
LDP	Local Development Plan
LEMP	Landscape and Ecology Management Plan
LNR	Local Nature Reserve
LNRS	Local Nature Recovery Strategy
LWS	Local Wildlife Site

Acronym/Abbreviation	Description
MAGIC	Multi-Agency Geographical Information for the Countryside
MCZ	Marine Conservation Zone
MDS	Maximum Design Scenario
MHCLG	Ministry of Housing and Local Government
MLWS	Mean Low Water Springs
MMO	Marine Management Organisation
MPA	Marine Protected Area
NPS	National Policy Statement
NRW	Natural Resources Wales
NSIP	Nationally Significant Infrastructure Project
NVC	National Vegetation Classification
Outline LEMP	Outline Landscape and Ecology Management Plan
PEIR	Preliminary Environmental Information Report
PPW	Planning Policy Wales
RAMS	Reasonable Avoidance Measures
RPA	Root Protection Area
SAC	Special Area of Conservation
SINC	Site of Importance for Nature Conservation
SNCB	Statutory Nature Conservation Body
SoNARR	State of Natural Resources Report (Wales)
SPA	Special Protection Area
SSSI	Site of Special Scientific Interest
SPI	Species of principle Importance

Units

Unit	Description
%	Percentage
ha	Hectares
km	Kilometres
m2	Square metres
m	Metres
nm	Nautical miles
MW	Megawatt

3 Onshore ecology

3.1 Introduction

3.1.1 Overview

3.1.1.1 This chapter of the Environmental Statement presents the assessment of the potential impact of the Mona Offshore Wind Project on onshore ecology. Specifically, this chapter considers the potential impact of the Mona Offshore Wind Project landward of Mean High Water Spring (MHWS) during the construction, operations and maintenance, and decommissioning phases.

3.1.1.2 The potential effects of the Mona Offshore Wind Project with respect to onshore and intertidal ornithology are considered separately in Volume 3, Chapter 4: Onshore and intertidal ornithology of the Environmental Statement. The potential effects of the Mona Offshore Wind Project with respect to offshore ecology are addressed in Volume 2, Chapters 2 to 5 of the Environmental Statement.

3.1.1.3 The assessment presented is informed by the following documents:

- Volume 3, Chapter 1: Geology, hydrogeology, and ground conditions, of the Environmental Statement
- Volume 3, Chapter 2: Hydrology and flood risk, of the Environmental Statement
- Volume 3, Chapter 4: Onshore and intertidal ornithology of the Environmental Statement
- Volume 3, Chapter 6: Landscape and visual resources, of the Environmental Statement
- Volume 3, Chapter 8: Traffic and transport, of the Environmental Statement
- Volume 4, Chapter 2: Climate change, of the Environmental Statement
- Habitat Regulations Assessment (HRA) ISAA Volume 1, Chapters 1.1 to 1.5 of the Environmental Statement (Document Reference E1.1 – E1.5).

3.1.1.4 This chapter also draws upon baseline information contained within Volume 7 of the Environmental Statement:

- Volume 7, Annex 3.1: Onshore ecology desk study technical report of the Environmental Statement
- Volume 7, Annex 3.2: Extended phase 1 habitat survey technical report of the Environmental Statement
- Volume 7, Annex 3.3: Great Crested Newt survey technical report of the Environmental Statement
- Volume 7, Annex 3.4: Hedgerow survey technical report of the Environmental Statement
- Volume 7, Annex 3.5: Terrestrial invertebrate survey technical report of the Environmental Statement
- Volume 7, Annex 3.6: Aquatic invertebrate survey technical report of the Environmental Statement

- Volume 7, Annex 3.7: Reptile survey technical report of the Environmental Statement
- Volume 7, Annex 3.8: Water vole survey technical report of the Environmental Statement
- Volume 7, Annex 3.9: Bat roost survey technical report of the Environmental Statement
- Volume 7, Annex 3.10: Bat Activity survey technical report of the Environmental Statement
- Volume 7, Annex 3.11: Otter survey technical report of the Environmental Statement
- Volume 7, Annex 3.12: Badger survey technical report of the Environmental Statement
- Volume 7, Annex 3.13: Hazel Dormouse survey technical report of the Environmental Statement
- Volume 7, Annex 3.14: National Vegetation Classification and Invasive Non-Native Species survey technical report of the Environmental Statement
- Volume 7, Annex 3.15: Fish and eel survey technical report of the Environmental Statement.

3.2 Legislative and policy context

3.2.1 Legislation

3.2.1.1 The legislative context for the Mona Offshore Wind Project is set out in Volume 1, Chapter 2: Policy and legislative context of the Environmental Statement. In addition, the following legislation and guidance relates specifically to onshore ecology and has been considered where relevant:

- The Environment Act 2021
- Environment (Wales) Act 2016
- The Conservation of Habitats and Species Regulations 2017
- The Wildlife and Countryside Act 1981
- The Countryside and Rights of Way (CRoW) Act 2000
- Natural Environment and Rural Communities (NERC) Act 2006
- The Protection of Badgers Act 1992
- Wild Mammals (Protection) Act 1996
- The Hedgerow Regulations 1997
- Government Circular: Biodiversity and Geological Conservation – Statutory Obligations and their Impact within the Planning System (ODPM 06/2005, Defra 01/2005)
- Commission notice Guidance document on the strict protection of animal species of Community interest under the Habitats Directive C/2021/7301.

3.2.2 Planning policy context

3.2.2.1 The Mona Offshore Wind Project will be located in Welsh offshore waters (beyond 12 nautical miles (nm) from the Welsh coast) and inshore waters, with the onshore infrastructure located wholly within Wales. As set out in Volume 1, Chapter 1: Introduction of the Environmental Statement, the Mona Offshore Wind Project is an offshore generating station in Welsh waters, it is a Nationally Significant Infrastructure Project (NSIP) as defined by Section 15(3) of the Planning Act 2008 (the 2008 Act). As such, there is a requirement to submit an application for a Development Consent Order (DCO) to the Planning Inspectorate to be decided by the Secretary of State for the Department for Energy Security and Net Zero.

3.2.3 National Policy Statements

3.2.3.1 There are currently six energy National Policy Statements (NPSs), three of which contain policy relevant to offshore wind development and the Mona Offshore Wind Project, specifically:

- Overarching NPS for Energy (NPS EN-1) which sets out the UK Government's policy for the delivery of major energy infrastructure (Department for Energy Security & Net Zero, January 2024a).
- NPS for Renewable Energy Infrastructure (NPS EN-3) (Department for Energy Security & Net Zero, January 2024b)
- NPS for Electricity Networks Infrastructure (NPS EN-5) (Department for Energy Security & Net Zero, January 2024c).

3.2.3.2 NPS EN-1 and NPS EN-3 include guidance on what matters are to be considered in the assessment. These are summarised in Table 3.2 below. NPS EN-1 and NPS EN-3 also highlights a number of factors relating to the determination of an application and in relation to mitigation. These are summarised in Table 3.2.

3.2.3.3 NPS-5 includes guidance on what matters are to be considered in the onshore assessment of electrical networks. These are summarised in Table 3.3. NPS EN-5 also highlights a number of factors relating to the determination of an application and in relation to mitigation. These are summarised in Table 3.4.

Table 3.1: Summary of the NPS EN-1 and NPS EN-3 provisions relevant to onshore ecology.

Summary of NPS EN-1 and EN-3 provision	How and where considered in the Environmental Statement
NPS EN-1	
Early engagement both before and at the formal pre-application stage between the applicant and key stakeholders, including public regulators, Statutory Consultees, and those likely to have an interest in a proposed energy infrastructure application, is strongly encouraged in line with the Government's pre-application guidance (NPS EN-1 paragraph 4.1.19).	Consultation has been ongoing through the project with the Onshore Ecology Expert Working Group (EWG) incorporating Natural Resources Wales (NRW), Conwy County Borough Council (CCBC), Denbighshire County Council (DCC), The Royal Society for Protection of Birds (RSPB) and the Amphibian and Reptile Conservation Trust (ARC). Evidence of early engagement with stakeholders, the issues discussed, and the agreed outcomes is provided in Table 3.7 and the Consultation Report (Document Reference E3).
All proposals for projects that are subject to the Infrastructure Planning (Environmental Impact Assessment (EIA) Regulations 2017 (the EIA Regulations) must be accompanied by an Environmental Statement (Environmental Statement) describing the aspects of the environment likely to be significantly affected by the project (NPS EN-1 paragraph 4.3.1)	This Environmental Statement provides a comprehensive study of the potential environmental effects of the Mona Offshore Wind Project.
The Regulations specifically refer to effects on…. biodiversity…. and the interaction with other effects (NPS EN-1 paragraph 4.3.2).	The aspects of the environment likely to be significantly affected by the Mona Offshore Wind Project with respect to biodiversity are addressed in section 3.9 of this chapter and the following chapters of the Environmental Statement prepared in accordance with the EIA Regulations: • Volume 2, Chapter 2: Benthic subtidal and intertidal ecology of the Environmental Statement • Volume 2, Chapter 3: Fish and shellfish ecology of the Environmental Statement • Volume 2, Chapter 4: Marine mammals of the Environmental Statement • Volume 2, Chapter 5: Offshore ornithology of the Environmental Statement • Volume 3, Chapter 4: Onshore and intertidal ornithology of the Environmental Statement. In addition, the mechanisms through which the Mona Offshore Wind Project intend to achieve overall net benefit to biodiversity are provided in the Biodiversity Benefit and Green Infrastructure Statement (Document Reference J7). Where there is an interaction of effects between onshore ecology and other environmental disciplines this is referenced in section 3.14 of this chapter.
The Regulations require an assessment of the likely significant effects of the proposed project on the environment, covering the direct effects and any indirect, secondary, cumulative, transboundary, short, medium, and long-term, permanent, and temporary, positive, and negative effects at all stages of the project, and also of the measures envisaged for avoiding or mitigating significant	The likely significant effects including direct, indirect, and secondary effects during construction, operations and maintenance and decommissioning of the Mona Offshore Wind Project on onshore ecology were considered initially in the Scoping Opinion (Document Reference J8). Effects on onshore ecology are considered in more detail in section 3.9 of this chapter.

Summary of NPS EN-1 and EN-3 provision	How and where considered in the Environmental Statement
adverse effects (NPS EN-1 paragraph 4.3.3).	Cumulative effects between the Mona Offshore Wind Project and other projects/plans with respect to onshore ecology are considered in section 3.12 of this chapter. Transboundary effects are addressed in section 3.13 of this chapter and in Volume 5, Annex 5.2. Transboundary effects screening of the Environmental Statement. Measures for mitigating adverse effects on onshore ecology are considered in section 3.7.1.1 of this chapter and in the Outline Landscape and Ecology Management Plan (LEMP) (Document Reference J22), and the Outline Code of Construction Practice (CoCP) (Document Reference J26).
To consider the potential effects, including benefits, of a proposal for a project, the applicant must set out information on the likely significant environmental, social, and economic effects of the development, and show how any likely significant negative effects would be avoided, reduced, mitigated, or compensated for, following the mitigation hierarchy (NPS EN-1 paragraph 4.3.4). Where the development is subject to EIA the applicant should ensure that the Environmental Statement clearly sets out any effects on internationally, nationally, and locally designated sites of ecological conservation importance, on protected species and on habitats and other species identified as being of principal importance for the conservation of biodiversity including irreplaceable habitats (NPS EN-1 paragraph 5.4.17).	Relevant baseline data have been collected to identify and evaluate ecological features which could be affected by the development, including protected species, species, habitats or principal importance and other habitats of ecological value; and internationally, nationally, and locally designated sites of ecological conservation importance sites within the development site onshore ecology desk study search area. Baseline data are provided in Volume 7, Annexes 3.1 to 3.15 technical reports to the Environmental Statement. Potential effects are identified in section 3.9 of this chapter. These effects have been addressed following the mitigation hierarchy (see section 3.6 of this chapter). Consultations have been undertaken with relevant stakeholders (see Table 3.7) and through the Scoping Opinion (Document Reference J8) with feedback used to inform the project design following the mitigation hierarchy as described in section 3.6 of this chapter. Effects on ecological receptors have been avoided as far as possible through site design/layout and the use of trenchless techniques to avoid above ground features. Where impacts could not be avoided, mitigation measures have been adopted as integral elements of the project to minimise effects on biodiversity. Secondary mitigation/compensation has been designed as a last resort to address effects which could not be avoided or mitigated (see Section 3.9 of this chapter). Potential effects on legally protected species will be addressed through the relevant European Protected Species (EPS) derogation licensing (Great Crested Newt (GCN) and Hazel Dormouse) and the protected species mitigation measures outlined in this chapter have been designed to fulfil licensing requirements. Additional habitat creation and enhancement is proposed with the aim of providing a net benefit for biodiversity. Mitigation and enhancement measures are described in section 3.7.1.1 and in the Outline LEMP (Document Reference J22), the Biodiversity Benefit and Green Infrastructure Statement (Document Reference J7) and the Outline CoCP (Document Reference J26).
The Environmental Statement should cover the	Environmental effects relevant to onshore ecology at

Summary of NPS EN-1 and EN-3 provision	How and where considered in the Environmental Statement
environmental, social, and economic effects arising from pre-construction, construction, operation and decommissioning of the project (NPS EN-1 paragraph 4.3.5).	each stage of the development are considered in section 3.9.
The applicant must provide information proportionate to the scale of the project, ensuring the information is sufficient to meet the requirements of the EIA Regulations (NPS EN-1 paragraph 4.3.10).	Through early consultation with relevant stakeholders (see Table 3.7), and through the Scoping Opinion (Document Reference J8), the information presented in this chapter has been designed and agreed upon as being proportionate to the scale of the project.
Projects should therefore not only mitigate harms, following the mitigation hierarchy, but also consider whether there are opportunities for enhancements (NPS EN-1 paragraph 4.6.1).	In addition to the measures delivered through the mitigation hierarchy, the project aims to deliver ecological enhancement through new woodland and hedgerow planting and creation of grassland of higher ecological value than existing grassland within the Mona Onshore Development Area. Additional information on enhancements is provided in the Outline LEMP (Document Reference J22) and Biodiversity Benefit and Green Infrastructure Statement (Document Reference J7).
Energy NSIP proposals should seek opportunities to contribute to and enhance the natural environment by providing net gains for biodiversity, or the wider environment where possible (NPS EN-1 paragraph 4.6.6). Biodiversity net gain should be applied after compliance with the mitigation hierarchy and does not change or replace existing environmental obligations (NPS EN-1 paragraph 4.6.10). Biodiversity net gain can be delivered onsite or wholly or partially off-site. Any off-site delivery of biodiversity net gain should also be set out within the application for development consent (NPS EN-1 paragraph 4.6.11).	The Mona Offshore Wind Project is committed to attempting to achieve net gains for biodiversity through measures including new woodland and hedgerow planting and creation of grassland of higher ecological value than existing grassland within the Mona Onshore Development Area. These measures are described in more detail section 3.7.1.1. More detailed information is provided in the Outline LEMP (Document Reference J22) and Biodiversity Benefit and Green Infrastructure Statement (Document Reference J7).
In addition to delivering biodiversity net gain, developments may also deliver wider environmental gains and benefits to communities relevant to the local area, and to national policy priorities, such as • reductions in GHG emissions; • reduced flood risk; • improvements to air or water quality; • climate adaptation; • landscape enhancement; • increased access to natural greenspace; or • the enhancement, expansion or provision of trees and woodlands. (NPS EN-1 paragraph 4.6.13).	The proposed ecological mitigation and enhancement including new hedgerow and woodland planting will also provide landscape enhancement. (See section 3.7.1.1 of this chapter and the Outline LEMP (Document Reference J22). A Biodiversity Benefit and Green Infrastructure Statement (Document Reference J7) forms part of the DCO application. Climate adaptation is considered in section 3.8, Climate Change relating to onshore ecology is also considered in more detail in Volume 4 Chapter 2 Climate Change, and Volume 8, Annex 2.2 Climate change risk assessment of the Environmental Statement.
Applicants should assess the impacts on and from their proposed energy project across a range of climate change scenarios, in line with appropriate expert advice and guidance available at the time (NPS EN-1 paragraph 4.10.10).	Climate change and its potential impact on the Mona Onshore Development Area baseline conditions is considered in section 3.5.7. The potential impacts of climate change on the proposed ecological mitigation are considered in section 3.8 of this chapter. Climate Change relating to onshore ecology is also considered in more detail in Volume 4 Chapter 2 Climate Change, and Volume 8, Annex 2.2 Climate change risk assessment of the Environmental Statement

Summary of NPS EN-1 and EN-3 provision	How and where considered in the Environmental Statement
Applicants should demonstrate that proposals have a high level of climate resilience built-in from the outset and should also demonstrate how proposals can be adapted over their predicted lifetimes to remain resilient to a credible maximum climate change scenario. These results should be considered alongside relevant research which is based on the climate change projections (NPS EN-1 paragraph 4.10.11).	The potential impacts of climate change on the proposed ecological mitigation are considered in section 3.8 and section 3.9 of this chapter. Climate Change relating to onshore ecology is also considered in more detail in Volume 4, Chapter 2: Climate Change, and Volume 8, Annex 2.2: Climate change risk assessment of the Environmental Statement.
The applicant should show how the project has taken advantage of opportunities to conserve and enhance biodiversity and geological conservation interests (NPS EN-1 paragraph 5.4.19).	The project has taken advantage of opportunities to conserve and enhance biodiversity above and beyond the mitigation hierarchy. The measures included new woodland and hedgerow planting and creation of grassland of higher ecological value than existing grassland within the Mona Onshore Development Area. These are described in more detail in section 3.9 of this chapter. Mitigation measures are also described in the Outline LEMP (Document Reference J22) A Biodiversity Benefit and Green Infrastructure Statement (Document Reference J7) will be submitted alongside the Environmental Statement as part of the DCO application.
Applicants should consider wider ecosystem services and benefits of natural capital when designing enhancement measures (NPS EN-1 paragraph 5.4.20).	The proposed ecological mitigation and enhancement including new hedgerow and woodland planting and grassland enhancement will also provide enhanced ecosystem services (see section 3.7.1.1 of this chapter). Wider ecosystem services are also addressed in more detail in the Outline LEMP (Document Reference J22) and Biodiversity Benefit and Green Infrastructure Statement (Document Reference J7).
The design of energy NSIP proposals will need to consider the movement of mobile/migratory species such as birds, fish and marine and terrestrial mammals and their potential to interact with infrastructure. As energy infrastructure could occur anywhere within England and Wales, both inland and onshore and offshore, the potential to affect mobile and migratory species across the UK and more widely across Europe (transboundary effects) requires consideration, depending on the location of development (NPS EN-1 paragraph 5.4.22).	No transboundary effects have been identified given the relatively small scale of the development, which is located entirely with Wales (see section 3.13 of this chapter), and Volume 5. Chapter 5.2 Transboundary Impacts Screening of the Environmental Statement). Within the Mona Onshore Development Area, potential migratory routes include watercourses (fish and eels), hedgerows (bats, Hazel Dormouse and GCN) and woodland/grassland (GCN, Hazel Dormouse and bats). Impacts on these features will be avoided as far as possible through site layout and design and the use of trenchless techniques. Effects which could not be avoided have been addressed through mitigation measures designed to meet the EPS derogation licensing requirements for GCN, Hazel Dormouse and bats and through the design of the watercourse realignment methodology (see section 3.9).
In Wales, applicants should consider the guidance set out in Section 6.4 of Planning Policy Wales (PPW) and the relevant policies in the Wales National Marine Plan (NPS EN-1 paragraph 5.4.24).	The guidance contained in PPW 11 and the 2023 Update to section 6.4 have been considered through the impact assessment process. The relevant requirements of NPS and how these requirements have been met are listed in Table 3.1 to Table 3.4 in this chapter. The requirements of PPW and how they have been addressed are listed in Table 3.5 in this chapter.

Summary of NPS EN-1 and EN-3 provision	How and where considered in the Environmental Statement
Applicants should include measures to mitigate fully the direct and indirect effects of development on ancient woodland, veteran trees or other irreplaceable habitats during both construction and operational phase (NPS EN-1 paragraph 5.4.32).	Effects on the ancient woodland will be avoided with the use of trenchless techniques (see section 3.7.1.1). A total of eight veteran trees are located within the Onshore Substation and surrounding working areas. However, all veteran trees will be retained and there will be no incursion into the LWS woodland Coed Cord y Saeson to enable the permanent access track down to the substation.
Applicants should consider any reasonable opportunities to maximise the restoration, creation, and enhancement of wider biodiversity, and the protection and restoration of the ability of habitats to store or sequester carbon as set out under Section 4.5 (NPS EN-1 paragraph 5.4.33). Consideration should be given to improvements to, and impacts on, habitats and species in, around and beyond developments, for wider ecosystem services and natural capital benefits, beyond those under protection and identified as being of principal importance. This may include considerations and opportunities identified through Local Nature Recovery Strategies, and national goals and targets set through the government's strategy for nature (NPS EN-1 paragraph 5.4.34).	Habitat creation and enhancement will benefit wider biodiversity by improving habitat connectivity through the Mona Onshore Development Area, including new hedgerow planting, hedgerow enhancement, woodland planting, and enhancement of pasture/improved grassland (see sections 3.7.1.1). New woodland and hedgerow planting, and reduced intensity of grassland management will enhance carbon sequestration of these habitats within the Mona Onshore Development Area. Potential effects on wider ecosystem services are considered in section 3.9. Measures to mitigate impacts and contribute to ecosystem services and natural capital are described in the Outline LEMP (Document Reference J22). No LNRs had been published for the Mona Onshore Development Area at the time of writing.
Applicants should include appropriate avoidance, mitigation, compensation, and enhancement measures as an integral part of the proposed development. In particular, the applicant should demonstrate that: • during construction, they will seek to ensure that activities will be confined to the minimum areas required for the works • the timing of construction has been planned to avoid or limit disturbance. • during construction and operation best practice will be followed to ensure that risk of disturbance or damage to species or habitats is minimised, including as a consequence of transport access arrangements. • habitats will, where practicable, be restored after construction works have finished. • opportunities will be taken to enhance existing habitats rather than replace them, and where practicable, create new habitats of value within the site landscaping proposals. Where habitat creation is required as mitigation, compensation, or enhancement, the location and quality will be of key importance. In this regard habitat creation should be focused on areas where the most ecological and ecosystems benefits can be realised. • mitigations required as a result of legal protection of habitas or specieis will be complied with (NPS EN-1 paragraph 5.4.35).	Avoidance, mitigation, compensation, and enhancement measures have been included as part of the development (see section 3.9). Best practice measures will be implemented during construction in accordance with an Outline CoCP (Document Reference J26). In relation to the working area, timing and working method to ensure effects are minimised (see also section 3.7.1.1). The reinstatement/restoration of habitats temporarily affected during construction will be undertaken as best practice and form one aspect of mitigation included as part of the development (see section 3.7.1.1). Habitat creation and enhancement delivered as mitigation has been targeted at the areas where it will deliver the highest benefit for the target species, and other species and ecosystem services (see section 3.8 of this chapter). An Outline LEMP (Document Reference J22) and Biodiversity Benefit and Green Infrastructure Statement (Document Reference J7) provide further detail.

Summary of NPS EN-1 and EN-3 provision	How and where considered in the Environmental Statement
Applicants should produce and implement a Biodiversity Management Strategy as part of their development proposals. (NPS EN-1 paragraph 5.4.36).	A Biodiversity Benefit and Green Infrastructure Statement (Document Reference J7) has been submitted alongside the Environmental Statement as part of the DCO application.
Existing trees and woodlands should be retained wherever possible… The applicant should assess the impacts on, and loss of, all trees and woodlands within the project boundary and develop mitigation measures to minimise adverse impacts and any risk of net deforestation as a result of the scheme. Mitigation may include the use of buffers to enhance resilience, improvements to connectivity, and improved woodland management. Where woodland loss is unavoidable, compensation schemes will be required, and the long-term management and maintenance of newly planted trees should be secured (NPS EN-1 paragraph 5.11.27).	Potential effects have been considered on all trees and woodland within the onshore ecology desk study search area. Wherever possible, direct loss or damage to trees and woodland has been avoided with micro-siting the cable route and the use of trenchless techniques (see section 3.9 and Table 3.22 of this chapter and the Outline CoCP Document Reference J26). Retained trees and woodland will be protected with buffers (see section 3.7.1.1 and the Outline CoCP (Document Reference J26)). Where tree loss is unavoidable, mitigation will include planting new trees and areas of woodland (see section 3.7.1.1). The Outline LEMP (Document Reference J22) sets out measures for habitat creation, restoration management and monitoring.
NPS EN-3	
Section 4.10 of EN-1 advises that the resilience of the project to climate change should be assessed in the Environmental Statement accompanying an application (NPS EN-3 paragraph 2.4.3).	The baseline section of this chapter considers the potential influence of climate change on baseline conditions of onshore ecology (see section 3.5 of this chapter). Climate Change relating to onshore ecology is also considered in more detail in Volume 4, Chapter 2: Climate Change of the Environmental Statement. The proposed habitat creation and 9nhanceement measures have taken into account the potential future effects of climate change for example in considering planting specifications and pond design (see Section 3.7.1.1 of this chapter and detailed mitigation measures in the Outline LEMP (Document Reference J22) and the Outline Biodiversity Benefit and Green Infrastructure Statement (Document Reference J7).
The applicant should assess the effects of offshore transmission and any associated infrastructure on the marine, coastal and onshore environment (NPS EN-3 paragraph 2.8.68).	This chapter of the Environmental Statement provides a comprehensive study of the potential environmental effects of the Mona Offshore Wind Project cable connection and associated infrastructure as they relate to onshore ecology (see section 3.9). The potential effects with respect to marine and coastal environment are considered in Volume 2, Chapters 2 to 5 of the Environmental Statement.
Assessment of environmental effects of transmission infrastructure and any proposed offshore or onshore substations should assess effects both alone and cumulatively with other existing and proposed infrastructure (NPS EN-3 paragraph 2.8.72).	Effects of the project alone are considered in Section 3.9 of this chapter. Cumulative effects on onshore ecology are considered in section 3.12 of this chapter.
In addition, applicants should have regard to the specific ecological and biodiversity considerations that pertain to proposed offshore renewable energy infrastructure developments, namely: • fish; • intertidal and subtidal seabed habitats and species;	Potential effects on intertidal habitats, fish, and wider ecosystem effects relevant to onshore ecology are considered in section 3.9 of this chapter. Impacts relevant to onshore ecology are addressed in Volume 3, Chapter 4: Onshore and intertidal ornithology, of the Environmental Statement. Potential effects with respect to fish, intertidal and subtidal seabed habitats and

Summary of NPS EN-1 and EN-3 provision	How and where considered in the Environmental Statement
• marine mammals; • birds; and • wider ecosystem impacts and interactions. (NPS EN-3 paragraph 2.8.98).	species, marine mammals and birds are considered in Volume 2, Chapters 2 to 5 of the Environmental Statement and Volume 3, Chapter 4: Onshore and intertidal ornithology of the Environmental Statement.
Applicants must always employ the mitigation hierarchy, in particular to avoid as far as possible the need to find compensatory measures for coastal, inshore and offshore developments affecting SACs SPAs and Ramsar sites and/or MCZs. (NPS EN-3 paragraph 2.8.213).	No impacts are predicted on HRA sites or Marine Conservation Zone (MCZs) as a result of the Mona Onshore Development Area. A full assessment of potential impacts on these sites is provided in the HRA ISAA Chapters 1.1 to 1.5 (Document Reference E1.1 to E2).
Applicants should undertake a review of up-to-date research and all potential avoidance, reduction and mitigation options presented for all receptors (NPS EN-3 paragraph 2.8.215). Landfall and cable installation and decommissioning methods should be designed appropriately to minimise effects on intertidal/coastal habitats, taking into account other constraints (NPS EN-3 paragraph 2.8.227). Where applicable, use of horizontal directional drilling techniques (HDD) should be considered as a method to avoid impacts on sensitive habitats and species (NPS EN-3 paragraph 2.8.228). Where HDD is proposed, the applicant should provide an alternative plan for installing the infrastructure in the event that HDD fails (NPS EN-3 paragraph 2.8.229). The applicant should explain their justification for the alternative plan and ensure this is the least impactful method possible (NPS EN-3 paragraph 2.8.230).	The assessment in this chapter has considered all relevant research and current guidance on avoidance, reduction, and mitigation of potential effects. Installation and decommissioning methods have been designed to minimise onshore ecological effects (see section 3.9 of this chapter, the Outline LEMP (Document Reference J22,) and the Outline CoCP (Document Reference J26)). Trenchless techniques have been selected as the method of cable installation as an integral element of the project. Full details and justification are provided in Volume 1, Chapter 3: Project description, Volume 1, Chapter 4: Site selection and consideration of alternatives of the Environmental Assessment, and section 3.9 of this chapter.

Table 3.2: Summary of the NPS EN-1 and EN-3 policy on decision making relevant to onshore ecology

Summary of NPS EN-1 and EN-3 decision making policy	How and where considered in the Environmental Statement
NPS EN-1	
The Secretary of State should consider how the accumulation of, and interrelationship between, effects might affect the environment, economy, or community as a whole, even though they may be acceptable when considered on an individual basis with mitigation measures in place (NPS EN-1 paragraph 4.3.19).	Cumulative effects between the Mona Offshore Wind Project and other projects/plans with respect to onshore ecology are considered in section 3.12 of this chapter.
In addition, in exercising functions in relation to Wales, the Secretary of State should consider section 6 of the Environment (Wales) Act 2016 and seek to maintain and enhance biodiversity, and in so doing promote the resilience of ecosystems, as far as consistent with the proper exercise of the Secretary of State's functions (NPS EN-1 paragraph 5.4.40).	The provisions of section 6 of the Environment (Wales) Act 2016 as implemented in PPW 11 and the 2023 Update to section 6.4 have been considered through the impact assessment process. The relevant requirements of NPSs and PPW are listed in Table 3.1 to Table 3.5 in this chapter which also identify where and how these requirements have been met. Also see the Outline LEMP (Document Reference J22) and the Outline Biodiversity Benefit and Green Infrastructure Statement (Document Reference J7).

Summary of NPS EN-1 and EN-3 decision making policy	How and where considered in the Environmental Statement
Development should, in line with the mitigation hierarchy, aim to avoid significant harm to biodiversity and geological conservation interests, including through consideration of reasonable alternatives (as set out in Section 4.3 above). Where significant harm cannot be avoided, impacts should be mitigated and as a last resort, appropriate compensation measures should be sought (NPS EN-1 paragraph 5.4.42).	Potential effects are identified in section 3.9 of this chapter. These effects have been addressed following the mitigation hierarchy (see section 3.6 of this chapter). Mitigation and enhancement measures are described in section 3.7.1.1 of this chapter and in the Outline LEMP (Document Reference J22), the Biodiversity Benefit and Green Infrastructure Statement (Document Reference J7) and the Outline CoCP (Document Reference J26). Adverse impacts of more than minor significance are predicted only on waterbodies during construction. The impacts are addressed in the GCN Mitigation Strategy (see section 3.7.1.1 of this chapter and the Outline LEMP (Document Reference J22).
The Secretary of State should consider what appropriate requirements should be attached to any consent and/or in any planning obligations entered into, in order to ensure that any mitigation or biodiversity net gain measures, if offered, are delivered and maintained. Any habitat creation or enhancement delivered including linkages with existing habitats for compensation or biodiversity net gain should generally be maintained for a minimum period of 30 years, or for the lifetime of the project, if longer (NPS EN-1 paragraph 5.4.44).	An Outline (LEMP) (Document Reference J22) is secured as a requirement of the DCO and will set out measures for long term management and monitoring of restored, enhanced, and newly created habitats.
The Secretary of State will need to take account of what mitigation measures may have been agreed between the applicant and the SNCB and the MMO/NRW (where appropriate), and whether the SNBC or the MMO/NRW has granted or refused, or intends to grant or refuse, any relevant licences, including protected species mitigation licences (NPS EN-1 paragraph 5.4.45).	Mitigation measures have been agreed in consultation with the relevant stakeholders through ongoing consultation with the Onshore Ecology EWG incorporating NRW, CCBC, DCC, RSPB and ARC. Evidence of early engagement with stakeholders, the issues discussed, and the agreed outcomes is provided in Table 3.7 of this chapter, and the Consultation Report (Document Reference E3). Mitigation and enhancement measures are described in section 3.7.1.1 of this chapter, in the Outline LEMP (Document Reference J22), the Biodiversity Benefit and Green Infrastructure Statement (Document Reference J7) and the Outline CoCP (Document Reference J26). These documents include outline species protection and mitigation measures which will form the basis of protected species licence applications for GCN, Hazel Dormouse, bats, and badger. Detail of all the relevant licences and consents are provided in Other Consents and Licences Required (Document Reference J1).
In taking decisions, the Secretary of State should ensure that appropriate weight is attached to designated sites of international, national, and local importance; protected species; habitats and other Species of Principal Importance for the conservation of biodiversity; and to biodiversity and geological interests within the wider environment (NPS EN-1 paragraph 5.4.48).	Relevant baseline data have been collected to identify and evaluate ecological features which could be affected by the development, including protected species, species, habitats or principal importance and other habitats of ecological value; and designated sites within the development site and onshore ecology desk study area. Baseline data are provided in Volume 7, Annexes 3.1 – 3.15 of the Environmental Statement.
(In relation to SSSIs), the Secretary of State should use requirements and/or planning obligations to mitigate the harmful aspects of the development and, where possible, to ensure the conservation and enhancement of the site's biodiversity or geological interest (NPS EN-1 paragraph	Potential adverse effects on Traeth Pensarn SSSI (coastal shingle) have been avoided through modifying the Mona Onshore Development Area to the SSSI, and with best practice measures in the Outline CoCP (Document Reference J26). Effects on Llanddulas

Summary of NPS EN-1 and EN-3 decision making policy	How and where considered in the Environmental Statement
5.4.50).	Limestone and Gwrych Castle Wood SSSI will be avoided through the use of trenchless techniques along with an Outline CoCP (Document Reference J26) (also see section 3.7.1.1 of this chapter).
The Secretary of State should give due consideration to regional or local designations. However, given the need for new nationally significant infrastructure, these designations should not be used in themselves to refuse development consent. (NPS EN-1 paragraph 5.4.52).	Relevant local/regional designations have been identified in the desk study (Volume 7, Annex 3.1: Onshore ecology desk study technical report of the Environmental Statement). Potential effects on local/regional designations are considered in section 3.9.
The Secretary of State should not grant development consent for any development that would result in the loss or deterioration of any irreplaceable habitats, including ancient woodland, and ancient and veteran trees unless there are wholly exceptional reasons and a suitable compensation strategy exists (NPS EN-1 paragraph 5.4.53).	Four areas of ancient woodland, (Llanddulas Limestone and Gwrych Castle Wood SSSI, Coed Nant Meifod, Coed Carreg-Dayydd, Coed y Ddol) and a small number of veteran trees have been identified within and directly adjacent to the Mona Onshore Development Area. Direct effects on the ancient woodland will be avoided with the use of trenchless techniques (see section 3.7.1.1of this chapter) along with an Outline CoCP (Document Reference J26). Also see the Tree and Hedgerow Retention Plan (Document Reference B14).
The Secretary of State should ensure that species and habitats identified as being of importance for the conservation of biodiversity are protected from the adverse effects of development by using requirements, planning obligations, or licence conditions where appropriate (NPS EN-1 paragraph 5.4.54).	Species and habitats identified as being of importance for the conservation of biodiversity were identified in Volume 7, Annexes 3.1 – 3.15 of the Environmental Statement. Potential impacts on the above receptors are considered in section 3.9 of this chapter. Mitigation measures are presented in section 3.7.1.1 of this chapter, in the Outline LEMP (Document Reference J22), the Biodiversity Benefit and Green Infrastructure Statement (Document Reference J7) and the Outline CoCP (Document Reference J26).
NPS-EN3	
The Secretary of State should be satisfied that cable installation and decommissioning has been designed sensitively, considering intertidal/coastal habitats (NPS EN-3 paragraph 2.8.311).	Intertidal and coastal habitat have been identified in Volume 7, Annex 3.1: Onshore ecology desk study technical report of the Environmental Statement and Volume 7, Annex 3.2: Extended phase 1 habitat survey technical report of the Environmental Statement. Potential impacts on the above receptors are considered in section 3.9 of this chapter. Mitigation measures are presented in section 3.7.1.1 in the Outline LEMP (Document Reference J22), and the Outline CoCP (Document Reference J26).

Table 3.3: Summary of the NPS EN-5 provisions relevant to onshore ecology.

Summary of NPS EN-5 provision	How and where considered in the Environmental Statement
As well as having duties under Section 9 of the Electricity Act 1989, (in relation to developing and maintaining an economical and efficient network), applicants must take into account Schedule 9 to the Electricity Act 1989, which places a duty on all transmission and distribution licence holders, in formulating proposals for new electricity networks infrastructure, to "have regard to the desirability of preserving natural beauty, of conserving flora, fauna and geological or physiographical features of special interest and of protecting sites, buildings and objects of	This assessment has had regard to conserving flora and fauna through the identification of relevant ecological receptors as described in Volume 7, Annexes 3.1 – 3.15 of the Environmental Statement. Potential impacts on the above receptors are considered in section 3.9 of this chapter. Mitigation measures are presented in section 3.7.1.1 and Table 3.22 of this chapter, in the Outline LEMP (Document Reference J22), and the Outline CoCP

Summary of NPS EN-5 provision	How and where considered in the Environmental Statement
architectural, historic or archaeological interest; and …do what [they] reasonably can to mitigate any effect which the proposals would have on the natural beauty of the countryside or on any such flora, fauna, features, sites, buildings or objects." (NPS EN-5 paragraph 2.2.10).	(Document Reference J26).
When planning and evaluating the proposed development's contribution to environmental and biodiversity net gain, it will be important – for both the applicant and the Secretary of State – to supplement the generic guidance set out in EN-1 (Section 4.5) with recognition that the linear nature of electricity networks infrastructure can allow for excellent opportunities to: i. reconnect important habitats via green corridors, biodiversity stepping zones, and reestablishment of appropriate hedgerows; and/or ii. connect people to the environment, for instance via footpaths and cycleways constructed in tandem with environmental enhancements (NPS EN-5 paragraph 2.5.1).	Mitigation measures including opportunities to reconnect important habitats via green corridors, biodiversity stepping zones, and reestablishment of appropriate hedgerows are presented in section 3.7.1.1 of this chapter, in the Outline LEMP (Document Reference J22), the Biodiversity Benefit and Green Infrastructure Statement (Document Reference J7) and the Outline CoCP (Document Reference J26).
In the assessments of their designs, applicants should demonstrate: • how environmental, community and other impacts have been considered and how adverse impacts have followed the mitigation hierarchy i.e. avoidance, reduction, and mitigation of adverse impacts through good design; and • how enhancements to the environment post construction will be achieved including demonstrating consideration of how proposals can contribute towards biodiversity net gain (as set out in Section 4.5 of EN-1 and the Environment Act 2021), as well as wider environmental improvements in line with the Environmental Improvement Plan and environmental targets (NPS EN-5 paragraph 2.14.2).	The mitigation hierarchy has been followed as described in section 3.6 of this chapter. Post construction enhancements relevant to onshore ecology are described in in section 3.7.1.1 of this chapter, in the Outline LEMP (Document Reference J22), the Biodiversity Benefit and Green Infrastructure Statement (Document Reference J7) and the Outline CoCP (Document Reference J26)

Table 3.4: Summary of the NPS EN-5 policy on decision making relevant to onshore ecology.

Summary of NPS EN-5 policy on decision making	How and where considered in the Environmental Statement
Where biodiversity impacts are identified, including those associated with bird collision with overhead lines, the Secretary of State should be satisfied that all feasible options for mitigation have been considered and evaluated appropriately (NPS EN-5 paragraph 2.11.1).	Biodiversity impacts relating to onshore ecology including bird collision impacts have been minimised by early consultation to agree scope and mitigation (see Scoping Opinion (Document Reference J8), Volume 1, Chapter 4: Site selection and consideration of alternatives, of the Environmental Statement. Consultations have been ongoing through the project with the Onshore Ecology EWG incorporating NRW, CCBC, DCC, The RSPB and ARC. Evidence of early engagement with stakeholders, the issues discussed, and the agreed outcomes is provided in Table 3.7 of this chapter. Mitigation measures are presented in section 3.7.1.1 and

Summary of NPS EN-5 policy on decision making	How and where considered in the Environmental Statement
	Table 3.22 of this chapter, in the Outline LEMP (Document Reference J22), and the Outline CoCP (Document Reference J26). With reference to bird collision risks, these are considered in Volume 3, Chapter 4: Onshore and intertidal ornithology of the Environmental Statement.

3.2.4 Planning Policy Wales

3.2.4.1 Planning Policy Wales (PPW) Edition 11 (Welsh Government, 2021) sets out the land use planning policies of the Welsh Government. The objective is to ensure the planning system contributes towards sustainable development and improves the social, economic, environmental, and cultural wellbeing of Wales.

3.2.4.2 Draft Policy changes to Chapter 6 of PPW 11 were published in October 2023 with information relevant to addressing the nature emergency in Wales (Welsh Government 2023). Those sections of PPW11 and the 2023 consultation updates of relevance to this chapter are set out in Table 3.5 below.

Table 3.5: Planning Policy Wales.

Summary of PPW provision	How and where considered in the Environmental Statement
Planning authorities firstly must ensure that development avoids and then minimises impact on biodiversity and ecosystems and secondly that it provides opportunities for enhancement within areas identified as important for the ability of species to adapt and/or to move to more suitable habitats (PPW11 Chapter 6 update Annex paragraphs 6.2.10).	Environmental impacts relating to onshore ecology have been minimised by early consultation to agree scope and mitigation (see Scoping Opinion (Document Reference J8) and Volume 1, Chapter 4: Site selection and consideration of alternatives of the Environmental Statement). Consultations have been ongoing through the project with the Onshore Ecology EWG incorporating NRW, CCBC, DCC, The RSPB and ARC. Evidence of early engagement with stakeholders, the issues discussed, and the agreed outcomes is provided in Table 3.7 of this chapter. Potential onshore ecological receptors were identified in Volume 7, Annexes 3.1 – 3.15 of the Environmental Statement. Potential impacts on the above receptors are considered in section 3.9 of this chapter. Possible effects of cable installation relevant to onshore ecology including potential habitat loss, disturbance, and on protected sites are considered in section 3.9 of this chapter. Mitigation measures including enhancement to the ability of species to adapt and/or to move to more suitable habitats are presented in section 3.7.1.1 and Table 3.22 of this chapter, in the Outline LEMP(Document Reference J22), and the Outline CoCP (Document Reference J26).

Summary of PPW provision	How and where considered in the Environmental Statement
Planning authorities must encourage the appropriate management of features of the landscape which are of major importance for wild flora and fauna in order to complement and improve the ecological coherence of the National Site Network, formally known as the Natura 2000 network, as well as SSSIs and other statutory and non-statutory designated sites. The features concerned are those which, because of their linear and continuous structure or their function as 'steppingstones' or 'wildlife corridors' which are essential for migration, dispersal, or genetic exchange (PPW11 Chapter 6 update Annex paragraphs 6.2.11).	No features have been identified which perform a significant connectivity function for nearby National Site Network sites or SSSIs. Effects on Traeth Pensarn SSSI have been avoided through modifying the Mona Onshore Development Area to avoid the coastal vegetated shingle of the SSSI. Some areas of the SSSI are still included in the Onshore Development Area to allow for access to the beach but the coastal vegetated shingle will not be impacted.
A green infrastructure statement should be submitted with all planning applications. This will be proportionate to the scale and nature of the development proposed and will describe how green infrastructure has been incorporated into the proposal. In the case of minor development this will be a short description and should not be an onerous requirement for applicants (PPW11 Chapter 6 update Annex paragraphs 6.2.5).	A Biodiversity Benefit and Green Infrastructure Statement (Document Reference J7) forms part of the DCO application for the Mona Offshore Wind Project.
Development proposals should be informed by the priorities identified in green infrastructure assessments and locally based planning guidance (PPW11 Chapter 6 update Annex unnumbered paragraph).	At the time of writing a Green Infrastructure Assessment for the relevant area had not been published. Local planning policy has been considered as outlined in Table 3.6.
Recognising that development needs to take place and some biodiversity may be impacted, the planning system should ensure that overall, there is a net benefit for biodiversity and ecosystem resilience, resulting in enhanced well-being. Addressing the consequences of climate change should be a central part of any measures to protect, maintain and enhance biodiversity and the resilience of ecosystems. Information contained in SoNaRR, Area Statements, Local Nature Plans, Local Nature Recovery Action Plans, Local Biodiversity Action Plans and held by Local Environmental Record Centres should be taken into account. Development proposals must consider the need to • support the maintenance and enhancement of biodiversity and the resilience of ecosystems; • ensure action in Wales contributes to international responsibilities towards biodiversity and habitats; • ensure statutorily and non-statutorily designated sites are protected; safeguard from direct impacts on protected and priority species and the ecological networks and components that underpin them; • secure enhancement of and improvements to ecosystem resilience. (PPW Chapter 6 update Annex paragraph 6.4.3)	The assessment draws on all relevant publications and plans to inform how net biodiversity benefit can be delivered. A Biodiversity Benefit and Green Infrastructure Statement (Document Reference J7) has been provided as part of the DCO application for the Mona Offshore Wind Project. Statutory and non-statutory designated sites within the onshore ecology desk study search area have been identified in Volume 7, Annex 3.1 Onshore ecology desk study technical report of the Environmental Statement. Where possible, effects on the designated sites have been avoided, minimised or mitigated following the mitigation hierarchy (see section 3.7.1.1 and Table 3.22 of this chapter, in the Outline LEMP (Document Reference J22), the Biodiversity Benefit and Green Infrastructure Statement (Document Reference J7) and the Outline CoCP (Document Reference J26).
…Development should not cause any significant loss of habitats or populations of species (not including non-native invasive species), locally or nationally and must work alongside nature and it must provide a net benefit for biodiversity and improve, or enable the improvement, of the resilience of ecosystems….	No residual impacts of significance (in EIA terms) are predicted (section 3.7.1.1 and Table 3.34). The Mona Offshore Wind Project is committed to attempting to achieve long term net biodiversity benefit taking into account the DECCA framework. Biodiversity enhancements are presented in the Outline LEMP

Summary of PPW provision	How and where considered in the Environmental Statement
Planning authorities must also take account of and promote the resilience of ecosystems, in particular the following attributes, known as the DECCA Framework: • diversity between and within ecosystems; • the extent or scale of ecosystems; • the condition of ecosystems including their structure and functioning; • the connections between and within ecosystems; and • adaptability of ecosystems including their ability to adapt to, resist and recover from a range of pressures likely to be placed on them through climate change for example. (PPW 11 Chapter 6 update Annex paragraph 6.4.5).	(Document Reference J22), the Biodiversity Benefit and Green Infrastructure Statement (Document Reference J7).
In fulfilling this duty, planning authorities must also have regard to: • the list of habitats and Species of Principal Importance for Wales, published under Section 7 of the Environment (Wales) Act 2016; • the SoNaRR (State of Natural Resources Report), published by NRW; • any Area Statement, published by NRW, that covers all or part of the area in which the authority exercises its functions and NRW's Nature Network Maps and • guidance given to public authorities by Welsh Ministers under Section 6 of the Environment (Wales) Act. (PPW 11 Chapter 6 update Annex paragraph 6.4.6).	All relevant habitat and species including those or principal importance for conservation in Wales have been identified in the baseline surveys which include species and habitats of principal importance, as reported in Volume 7, Annexes 3.1 – 3.15 of the Environmental Statement. The approach of the assessment to avoid impacts where possible including through site design and working method, with mitigation and enhancement with the aim of a net biodiversity benefit is consistent with the aims of the SoNaRR which are captured in PPW 11 (see Table 3.5, and the relevant NPSs (Table 3.2, Table 3.3 and Table 3.4). The cable route has been designed to avoid as far as possible, potential nature networks identified on NRW's Nature Network Maps. Where the development impinges on Nature Network Areas, measures will be implemented to minimise impacts and restore temporary habitat loss (see section 3.7.1.1 and Table 3.22 of this chapter, in the Outline LEMP (Document Reference J22), the Biodiversity Benefit and Green Infrastructure Statement (Document Reference J7) and the Outline CoCP (Document Reference J26)). Guidance under section 6 of the Environment (Wales) Act 2016 has been considered as it is translated in PPW11, including the November 2023 update (see Table 3.5 of this chapter).
In demonstrating a net gain for biodiversity, developments should follow a stepwise approach as outlined in the PPW. This follows the mitigation hierarchy of avoid, minimise, mitigate/restore, with compensation as a last resort and compensation on-site preferred over off-site. Enhancement opportunities should be sought at each stage in the stepwise process (PPW 11 Chapter 6 update Annex paragraph 6.4.5).	The assessment in this chapter follows the mitigation hierarch and stepwise process outlined in PPW11 (see Table 3.5 and section 3.6). Mitigation and enhancements are described in section 3.7.1.1 and Table 3.22 of this chapter, in the Outline LEMP (Document Reference J22), the Biodiversity Benefit and Green Infrastructure Statement (Document Reference J7) and the Outline CoCP (Document Reference J26).

Summary of PPW provision	How and where considered in the Environmental Statement
Pre-application surveys, research and data searches by developers will be necessary to establish the baseline state of biodiversity and ecosystem resilience on site taking into account the Mona Onshore Development Area's contribution to resilient ecological networks through its diversity, extent, connectivity and condition and the provision of ecosystem services (PPW11 Chapter 6 update Annex unnumbered paragraph).	Comprehensive baseline data have been obtained through a suite of surveys including desk study, habitat, and species surveys, as reported in Volume 7, Annexes 3.1 – 3.15 of the Environmental Statement. Environmental impacts relating to onshore ecology have been minimised through project design. Opportunities for micrositing have been identified through the ecology surveys (which identified constraints) and consultation with the EWG. Mitigation and enhancements are described in section 3.7.1.1 and Table 3.22 of this chapter, in the Outline LEMP(Document Reference J22), the Biodiversity Benefit and Green Infrastructure Statement (Document Reference J7) and the Outline CoCP (Document Reference J26).
All development must deliver a net benefit for biodiversity and ecosystem resilience from the baseline state (proportionate to the scale and nature of the development proposed) (PPW11 Chapter 6 update Annex unnumbered paragraph).	The Biodiversity Benefit and Green Infrastructure Statement (Document Reference J7) outlines how net benefit for biodiversity will be achieved as part of the Mona Offshore Wind Project.
Statutorily designated sites must be protected from damage and deterioration, with their important features conserved and enhanced by appropriate management. The contribution of the designated site to wider resilient ecological networks should be recognised (PPW11 Chapter 6 update Annex paragraph 6.4.15).	No features have been identified which perform a significant connectivity function for nearby National Site Network sites or SSSIs. Potential effects were identified for two statutory designated sites. Effects on Traeth Pensarn SSSI (coastal shingle) have been avoided through modifying the Mona Onshore Development Area to avoid the designated features of the SSSI. Effects on Llanddulas Limestone and Gwrych Castle Wood SSSI will be avoided through the use of trenchless techniques. Further detail is available in Volume 1, Chapter 3 Project Description of the Environmental Statement.
Sites of Importance for Nature Conservation, Local Wildlife Sites, Local Nature Reserves, and Regionally Importance Geodiversity Sites make a vital contribution to delivering an ecological network for biodiversity and resilient ecosystems, and they should be given protection in development plans and the development management process (PPW11 Chapter 6 update Annex paragraph 6.4.20).	The baseline assessment included a search for non-statutory designated sites within the onshore ecology desk study area (see Volume 7, Annex 3.1: Onshore ecology desk study technical report of the Environmental Statement).
Where harm (to non-statutory designated sites) is unavoidable it should be minimised by mitigation measures and offset as far as possible by compensation measures designed to ensure there is no reduction in the overall conservation value of the area or feature, and a net benefit for biodiversity secured (PPW11 Chapter 6 update Annex unnumbered paragraph).	Potential impacts on non-statutory designated sites are considered in section 3.9 of this chapter. Measures to avoid or mitigate impacts are described section 3.8 of this chapter and the Outline CoCP (Document Reference J26)

Summary of PPW provision	How and where considered in the Environmental Statement
The presence of a protected species is a material consideration when assessing the impacts of a proposal. An ecological survey to determine the presence of any such species and assess the likely impact of the development may be required to inform decision making. (PPW 11 update Annex paragraph 6.4.22)	Comprehensive baseline data on protected species was collected and presented in Volume 7, Annexes 3.1 – 3.15 of the Environmental Statement. Potential effects on species are considered in section 3.9 of this chapter. Mitigation and enhancement measures for are described in more detail in Table 3.22 of this chapter, in the Outline LEMP (Document Reference J22), the Biodiversity Benefit and Green Infrastructure Statement (Document Reference J7) and the Outline CoCP (Document Reference J26).
The importance of trees should be promoted as part of plan making and decision taking. Planning authorities must promote the planting of new trees, hedgerows, groups of trees and areas of woodland as part of new development (PPW 11 update Annex paragraph 6.4.24). Planning authorities must protect trees, hedgerows, groups of trees and areas of woodland where they have ecological value, contribute to the character or amenity of a particular locality, or perform a beneficial green infrastructure function (PPW 11 update Annex paragraph 6.4.25). Trees, hedgerows, groups of trees and areas of woodland capable of making a significant contribution to the area should be retained and protected. Where such trees are lost, they will be subject to the replacement planting ratios set out below (PPW11 Chapter 6 update Annex unnumbered paragraph). Replacement planting shall be at a ratio equivalent to the quality, environmental and ecological importance of the tree(s) lost, and this must be preferably onsite, or immediately adjacent to the Mona Onshore Development Area, and at a minimum ratio of at least 3 trees of a similar type and compensatory size planted for every 1 lost (PPW 11 update Annex paragraph 6.4.25).	The importance of trees, hedgerows and woodland has been considered in this assessment. Baseline information on trees, woodland and hedgerows is presented in: • Volume 7, Annex 3.1: Onshore ecology desk study technical report of the Environmental Statement • Volume 7, Annex 3.2: Extended phase 1 habitat survey technical report of the Environmental Statement • Volume 7, Annex 3.4: Hedgerow survey technical report of the Environmental Statement. Potential effects on trees, woodland and hedgerows are assessed in section 3.9 of this chapter. Measures to avoid or mitigate effects on trees included site design, tree protection and buffers and new tree planting as described in Table 3.22 of this chapter, in the Outline LEMP (Document Reference J22) and the Outline CoCP (Document Reference J26).
Ancient, veteran and heritage trees, ancient woodlands and ancient hedgerows are to be afforded protection from development which would result in their loss or deterioration unless very exceptionally there are significant and clearly defined public benefits (PPW 11 update Annex paragraph 6.4.26).	Four areas of ancient woodland, (Llanddulas Limestone and Gwrych Castle Wood SSSI, Coed Nant Meifod, Coed Carreg-Dayydd, Coed y Ddol) and a small number of veteran trees have been identified within and directly adjacent to the Mona Onshore Development Area. Direct effects on the ancient woodland will be avoided with the use of trenchless techniques (see section 3.7.1.1 of this chapter) along with an Outline CoCP (Document Reference J26). Also see the Tree and Hedgerow Retention Plan (Document Reference B14).

3.2.5 Local Planning Policies

3.2.5.1 The Mona Offshore Wind Project lies within the administrative areas of CCBC and DCC. The assessment of potential effects on onshore ecology has also been made with consideration of the specific policies set out in Conwy Local Development Plan (LDP) 2007-2022 (CCBC, 2013) and DCC LDP 2006-2021 (DCC, 2013). Key provisions are set out in Table 3.6 along with details as to how these have been addressed within the assessment.

Table 3.6: Local Planning Policy of relevant to onshore ecology.

Policy	Key provisions	How and where considered in the Environmental Statement
CCBC: Adopted LDP (October 2013)		
NTE/3 - Biodiversity	New development should aim to conserve and, where possible, enhance biodiversity.	Comprehensive baseline data on biodiversity receptors was collected and presented in Volume 7, Annexes 3.1 – 3.15 of the Environmental Statement. Potential effects on species are considered in section 3.9. Mitigation and enhancement measures for protected species are described in more in Table 3.22 of this chapter, in the Outline LEMP(Document Reference J22), the Biodiversity Benefit and Green Infrastructure Statement (Document Reference J7) and the Outline CoCP (Document Reference J26).
DCC: Adopted LDP (June 2013)		
VOE 5	Development proposals that may have an impact on protected species or designated sites of nature conservation will be required to be supported by a biodiversity statement which must have regard to the County biodiversity aspiration for conservation, enhancement, and restoration. Consent will not be supported for development proposals that are likely to cause significant harm to the qualifying features of internationally and nationally designated sites of nature conservation, priority habitats, priority species or to species that are under threat.	Comprehensive baseline data on protected species or designated sites of nature conservation was collected and presented as reported in Volume 7, Annexes 3.1 – 3.15 of the Environmental Statement. Potential effects on species are considered in section 3.9 of this chapter. Mitigation and enhancement measures for protected species are described in more detail section in Table 3.22 of this chapter, in the Outline LEMP(Document Reference J22), and the Outline CoCP (Document Reference J26). In accordance with policy VOE 5 of the Adopted LDP 2006-2021 (DCC, 2013), a Biodiversity Benefit and Green Infrastructure Statement (Document Reference J7) has been prepared and submitted as part of the application.
VOE 10	Development proposals which promote the provision of renewable energy technologies will be supported providing they…demonstrate no unacceptable impact upon the interests of nature conservation, wildlife, natural heritage…	Comprehensive baseline data on protected species or designated sites of nature conservation was collected and presented as reported in Volume 7, Annexes 3.1 – 3.15 of the Environmental Statement. Potential effects on species are considered in section 3.9. Mitigation and enhancement measures for protected species are described in Table 3.22 of this chapter, in the Outline LEMP (Document Reference J22), and the Outline CoCP (CoCP) (Document Reference J26). In accordance with policy VOE 5 of the Adopted LDP 2006-2021 (DCC, 2013), a Biodiversity Benefit and Green Infrastructure Statement (Document Reference J7) has been prepared and submitted as part of the application.

3.3 Consultation

3.3.1 Overview

3.3.1.1 A summary of the key issues raised during consultation activities undertaken to date specific to onshore ecology is presented in Table 3.7 below, together with how these issues have been considered in the production of this Environmental Statement chapter.

3.3.2 Evidence plan process

3.3.2.1 The purpose of the Evidence Plan process is to agree the information the Mona Offshore Wind Project needs to supply to the Secretary of State, as part of a DCO application for the Mona Offshore Wind Project.

3.3.2.2 The Evidence Plan seeks to ensure compliance with the HRA and EIA. The development and monitoring of the Evidence Plan and its subsequent progress is being undertaken by the Steering Group. The Steering Group will comprise of the Applicant, Planning Inspectorate, NRW the Welsh Government, CCBC, DCC and RSPB.

3.3.2.3 As part of the Evidence Plan process an Onshore Ecology EWG has been set up and the meetings, and non-statutory consultees present, are set out in Table 3.7.

3.3.2.4 In addition to the formal evidence plan process, the Applicant's Technical Lead ecologist has joined St Asaph Business Park GCN Steering Group. This Steering Group meets bi-annually with the purpose of co-ordinating and managing different stakeholders' objectives in relation to the St Asaph GCN population of national importance. The Applicant's Technical Lead ecologist has attended a meeting on 27th April 2023 (online) and provided the steering group with an outline of the Mona Offshore Wind Project and the GCN ecology topic lead attended in person on 19th October 2023 to provide the steering group with an update of the survey work undertaken in 2023. There is the intention that the Applicant's ecology team will remain engaged with the St Asaph Business Park GCN Steering Group throughout the application and consenting process to ensure co-ordination of monitoring of the St Asaph GCN metapopulation to avoid double handling of GCN during surveys.

Table 3.7: Summary of key consultation issues raised during consultation activities undertaken for the Mona Offshore Wind Project relevant to onshore ecology.

Date	Consultee and type of response	Issues raised	Response to issue raised and/or where considered in this chapter
March 2022	NRW (email)	Confirmation was sought from NRW on the methodology for GCN surveys; specifically, would the NRW accept the use of environmental DNA (eDNA) to confirm absence and where the eDNA results were negative would NRW agree that no surveys would be required unless: • there had been a previous record of GCN. • ponds are within 250 m of a pond where GCN have been confirmed, provided habitats are available for connectivity purposes and that these ponds do not support fish. NRW were also asked if the St Asaph, Gwynt Y Mór Onshore Wind Farm and Burbo Bank Extension mitigation ponds, which are already being monitored annually, could be excluded from the proposed survey programme.	NRW confirmed that they had no objection to this proposed approach and added that modelling data which suggests the likely presence of GCN is considered as a material component of surveillance strategies. There is a "*presumption in favour of all ponds with extant records being subject to survey using traditional survey techniques unless the ponds are known to be subject to ongoing surveys by third parties.*" GCN surveys were undertaken following the scope and points of clarification agreed with NRW and are reported in Volume 7, Annex 3.3: Great crested newt technical report, of this chapter.
May 2022	DCC (Scoping Opinion)	The proposal therefore has the potential to impact on protected species, and ecological impacts should be scoped in for the construction and operational phases.	Potential impacts to protected species during the construction and operation and maintenance phases have been assessed in section 3.9.
June 2022	Natural England (Scoping response)	Identification of receptors and the sensitivity of receptors to impact scale definitions should be discussed and agreed as part of the Evidence Plan process with the relevant Onshore Ecology EWG. These definitions should be set out within the Environmental Statement.	The agreed definitions of (IEFs) are set out in section 3.5.1.1 to 3.5.1.8 of this chapter. IEFs and their relevant sensitivities were agreed with the Onshore Ecology EWG.
June 2022	The Planning Inspectorate (Scoping Opinion)	The Applicant should seek to agree study areas and receptors with relevant consultation bodies. The Environmental Statement should confirm whether the study area proposed aligns with relevant policy and guidance and provide justification for any divergences. The Environmental Statement should include figures to identify the final study area for each aspect and the location of any static receptors considered in the assessment.	The Applicant has agreed the study areas and receptors of relevance through consultation with the Onshore Ecology EWG. The final study areas are presented in Volume 7, Annexes 3.1 – 3.15 of the Environmental Statement.

Date	Consultee and type of response	Issues raised	Response to issue raised and/or where considered in this chapter
June 2022	The Planning Inspectorate (Scoping Opinion)	Where possible, the Applicant should seek to agree the magnitude of impact or sensitivity of receptors with relevant consultees through the PEIR and pre-application process. Where differences in opinion remain, these should be identified within the Environmental Statement with justification given for the Applicant's choice.	Justification for significance criteria is provided in section 3.6.
June 2022	The Planning Inspectorate (Scoping Opinion)	A number of mitigation plans have been referred to in aspect chapters. Where plans are relied upon to avoid significant environmental effects, outline or in-principal plans should be submitted as part of the DCO application.	Measures adopted as part of the Mona Offshore Wind Project are listed in section 3.8. The Outline CoCP (Document Reference J26) is accompanied by a series of outline management plans. An Outline LEMP (Document Reference J22) is also included in the DCO application.
June 2022	The Planning Inspectorate (Scoping Opinion)	The impact of temporary and permanent habitat loss on protected habitats and species during operations and maintenance of the Mona onshore transmission assets. On the basis of the likely small scale and nature of habitat loss associated with the operations and maintenance of the Mona onshore transmission assets, the Inspectorate is content that this matter can be scoped out of the assessment.	Noted – this impact has been scoped out of the assessment as set out in Table 3.9.
June 2022	The Planning Inspectorate (Scoping Opinion)	The impact of pollution caused by accidental spills/contaminant release on protected habitats and species during operations and maintenance of the Mona onshore transmission assets. The Scoping Report proposes to scope out accidental spills/contaminant release from operations and maintenance activities for the Proposed Development. The Inspectorate agrees that these effects are capable of mitigation through standard management practices and can be scoped out of the assessment. The Environmental Statement should provide details of the proposed mitigation measures to be included in the Ecological Management Plan. The Environmental Statement should also explain how such measures will be secured.	Noted – this impact has been scoped out of the assessment as set out in Table 3.9. An Outline spillage and emergency response plan (Document Reference J26.1) has been submitted as part of the application and is secured as a requirement of the DCO.
June 2022	The Planning Inspectorate (Scoping Opinion)	The Scoping Report confirms that the detailed scope, methodologies, and extents of the Mona Onshore Development Area-specific surveys identified will be agreed with NRW in advance of survey commencement. The Environmental	GCN survey scope was agreed with NRW, and the Phase 1 habitat surveys have been undertaken to industry standard (see Volume 7, Annex 3.2: Extended phase 1 habitat survey technical report of

Date	Consultee and type of response	Issues raised	Response to issue raised and/or where considered in this chapter
		Statement should provide a clear rationale and a justification as to the approach undertaken to the surveys used to inform the assessment, including reference to agreements reached with relevant consultation bodies, such as NRW.	the Environmental Statement). Further survey methodologies for habitats and protected species have been discussed and agreed with the Onshore Ecology EWG and stakeholders where required and are described in Volume 7, Annexes 3.1 to 3.15 of the Environmental Statement.
June 2022	The Planning Inspectorate (Scoping Opinion)	Public bodies have a responsibility to avoid releasing environmental information that could bring about harm to sensitive or vulnerable ecological features. Specific survey and assessment data relating to the presence and locations of species such as badgers, rare birds and plants that could be subject to disturbance, damage, persecution, or commercial exploitation resulting from publication of the information, should be provided in the Environmental Statement as a confidential annex. All other assessment information should be included in an Environmental Statement chapter, as normal, with a placeholder explaining that a confidential annex has been submitted to the Inspectorate and may be made available subject to request.	Protected species surveys are presented in Volume 7, Annexes 3.3 to 3.15 of the Environmental Statement as confidential annexes, where appropriate.
June 2022	Onshore Ecology Expert Working Group (01) - NRW, Denbighshire County Council, Conwy County Borough Council, RSPB	The purpose of the first meeting was to introduce the Mona Offshore Wind Project to the Onshore Ecology EWG and to discuss the ongoing and proposed onshore ecology surveys and desk top data sources.	The scope and results of the desk study are surveys are reported in Volume 7, Annexes 3.1 to 3.15 of the Environmental Statement.
December 2022	Onshore Ecology Expert Working Group (02) - NRW, Conwy County Borough Council, RSPB	The purpose of the meeting was to confirm the approach to baseline characterisation including agreeing the onshore ecology study area and providing updates on the ecology surveys.	The scope and results of the desk study are surveys are reported in Volume 7, Annexes 3.1 to 3.15 of the Environmental Statement.
April 2023	EWG (03) - NRW, Denbighshire County Council, Conwy County Borough Council, Welsh Government, RSPB, Amphibian and Reptile Conservation Trust (ARC)	The findings of the Preliminary Environmental Information Report (PEIR) were shared with the Onshore Ecology EWG, including: • Extent of field surveys • Interim findings reported in PEIR • Phase 1 Habitat Survey coverage	Details of all survey methodologies and results of the surveys undertaken are presented in Volume 7, Annexes 3.1 to 3.15 of the Environmental Statement.

Date	Consultee and type of response	Issues raised	Response to issue raised and/or where considered in this chapter
		• Summary of phase 2 surveys planned • Methodologies to be submitted for onshore ecology surveys • Process for sharing findings • The next steps between the PEIR and ES Issus raised by stakeholders included: • Refinement of the methodologies requested from stakeholders. • No further issues raised	
June 2023	CCBC (Email response Following EWG3)	Data Sharing Platform CCBC ecology team requested presentation changes to data sharing: • Symbology on legends for hedgerows • Rationale for choosing NVC survey locations. • Sharing the geopackage/shape files when surveys are completed	Responses were feedback to the project's Digital Delivery Team who improved the interface for stakeholders. NVC surveys were scoped in during the Phase 1 habitat surveys and the information is presented in the NVC Technical Report (Volume 7, Annex 3.14 of the Environmental Statement). The Mona Offshore Wind Project will submit records to Cofnod between February and March 2024.
June 2023	DCC (S42 response)	As open cut trenches are proposed to lay cables, it is noted that extensive sections of hedgerow and trees are proposed to be removed. The Council has concerns with the extent of hedgerow that would be removed, and further assessment is needed to demonstrate why trenchless ducts cannot be utilised to lay cables under existing hedgerow and trees in order to minimise the loss of important and biodiverse trees and hedgerow.	Although many of the of hedgerows will be crossed by trenchless techniques as identified in Volume 5, Annex 4.3: Onshore Crossing Schedule of the Environmental Statement, there is still the option for open cut trenching through 55% of the hedgerows. However, this will seek to avoid vegetation removal, where possible, and open cut trench through gaps in hedgerows. Where hedgerow removal is required, the extent of hedgerow to be removed that has lesser ecological value, as identified in the Hedgerow Technical Report (Volume 7, Annex 3.4 of the Environmental Statement) will be selected over sections of hedgerow with high ecological value, where possible. Hedgerow removal will be temporary in nature and hedgerow re-instatement will follow, as

Date	Consultee and type of response	Issues raised	Response to issue raised and/or where considered in this chapter
			soon as practicable, following installation of the cables.
June 2023	DCC (S42 response)	It is noted that the substation site would result in the direct loss of Great Crested Newt habitat. Any loss of habitat must be fully compensated for, and the Council would defer to NRW with respect to impact on protected species.	The assessment of impacts of habitat loss for GCN is addressed in section 3.9. An Illustrative Landscape and Ecology Strategy identifies the proposed areas of planting and GCN habitat creation. A GCN mitigation strategy has been prepared and forms part of the Outline LEMP (Document Reference J22). NRW and DCC have been consulted during the preparation of the mitigation strategy.
June 2023	NRW (S42 response)	There is no consideration of or reference to EC guidance Commission notice Guidance document on the strict protection of animal species of Community interest under the Habitats Directive C/2021/7301 final in Section 18.2 Policy context.	Consideration has been given to policy EC guidance Commission notice Guidance document on the strict protection of animal species of Community interest under the Habitats Directive C/2021/7301, including Impacts to animal species, such as bats, Hazel Dormouse and will be addressed through an application for EPS mitigation licences, as detailed in the Outline LEMP (Document Reference J22) secured as a requirement of the DCO. The granting of an EPS mitigation licence will need to ensure the FCS of the species is not impacted as a consequence of the Mona Offshore Wind Project. The strict protection of animal species of community interest, included in this policy, have been identified in section 3.5 and considered further in both sections 3.8 (embedded mitigation) and section 3.9 (assessment of effects). Consideration of the Current Conservation Status (CCS) and Favourable Conservation Status (FCS), with respect to the St Asaph metapopulation of GCN specifically is addressed in section 3.9.2.
Consideration	NRW (S42 response)	The text in Section 18.4.6.9 requires amendment where it states, “For European protected species there is a requirement that the scheme should not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range.” NRW (A) advise that,	This has been updated in this chapter (see Table 3.13).

Date	Consultee and type of response	Issues raised	Response to issue raised and/or where considered in this chapter
		in order to ensure compliance with Habitats and Species Directive requirements, the wording is revised to a requirement that the scheme demonstrates no detriment to the maintenance of the population of the species concerned at a favourable conservation status in their natural range. In Table 18.16 Definition of conservation importance of the receptor, NRW (A) query why all schedule 1 species are listed as "high" but other legally protected species are listed as "medium". We advise that reference should be made to: • Habitats Directive Annex I habitats. • Habitats Directive Annex II and IV species • Birds Directive Annex I species.	
June 2023	NRW (S42 response)	Otter and Water vole With reference to Table 18.20 Measures adopted as part of the Mona Offshore Wind Project, NRW (A) note the comment with reference to GCN protected species licence. NRW (A) also advise that provision of temporary hedgerows surveillance and assessments are required to inform the detail of the proposed mitigation including associated dark (unlit) corridors. NRW (A) further advise, regarding provision of an 8m easement between banks of any water course and any proposed development, that the buffer may need to increase if (a) Water vole places of shelter are present; and (b) otter breeding sites/resting places are present.	Response noted. Hedgerow monitoring will be undertaken to confirm the establishment of the planting and the use of the hedgerows by protected species as detailed in the Outline LEMP (Document Reference J22). No impacts to Otter and Water vole have been identified during the assessment stage. Pre-construction surveys will be undertaken prior to the commencement of works and if Water vole and otter are likely to be impacted by the works, then the relevant mitigation strategies and licences will be agreed with NRW, as detailed in the Outline LEMP (Document Reference J22). An 8 m easement will be provided between the Onshore Substation and the diverted ordinary watercourse as confirmed in the Outline Operational Drainage Management Strategy (Document Reference J27).
June 2023	NRW (S42 response)	Great Crested Newt NRW (A) note the loss of terrestrial habitat in Sections 18.8.2.49 - 18.8.2.54 Great crested newt and advise that there would also	See section 3.9 for an assessment of impacts on GCN. And Outline GCN Mitigation Strategy is included within the Outline LEMP (Document Reference J22). This was presented at EGW6 and agreed in principle

Date	Consultee and type of response	Issues raised	Response to issue raised and/or where considered in this chapter
		be a loss of connectivity predicted. In Section 18.8.2.49, NRW (A) agree that the impact is predicted to be low, provided that: • Long term habitat compensation is a material component of the provisions of an appropriate scheme (this includes the tenure of the dedicated GCN compensation area according with the definition of a "responsible" body under part 7 of the Environment act 2021. • Long term habitat compensation is a material component of the provisions of an appropriate scheme (this includes the tenure of the dedicated GCN compensation area according with the definition of a "responsible" body under part 7 of the Environment act 2021. • Measures (e.g. commuted sums) are used for the purposes of addressing temporary impacts (habitat loss and severance). • NRW (A) note the impacts on GCN during commissioning and decommissioning in Sections 18.8.3.66 – 18.8.3.75. We agree with the projected impacts but note potential implications of the presence of GCN in Sustainable Drainage Systems (SuDS)/water attenuation ponds. • NRW (A) note the impacts during construction and operation, and reference to European Protected Species (EPS) licensing in Sections 18.8.4.39 – 45. We agree with the principles of the conclusions. However, further detail is required to confirm the approach in respect of the long-term. Note the long-term is an attribute of conservation status. NRW (A) note the outline proposals for future monitoring in Section 18.8.7 Future monitoring. We advise that a monitoring plan will be required and subsequently approved so that it can effectively inform the Hydrological, Ecological and Landscape Management Plan (HELMP). Required component provisions of the Monitoring plan include (but are not limited to): • Identification of ecological features • Confirmation of surveillance and monitoring key performance indicators	verbally with NRW. The Applicant has pro-actively engaged with NRW and ARC to refine and develop an approach for further GCN surveys in 2024.

Date	Consultee and type of response	Issues raised	Response to issue raised and/or where considered in this chapter
		• Surveillance and monitoring methodologies. • Licensing requirements • Persons responsible for commissioning and undertaking surveillance. • Reporting requirements including uploading of data to relevant data bases, e.g. to the relevant local records centre; in respect of GCN the Wales GCN Monitoring scheme • Remedial measures that are capable of being actioned in the event of a failure to commission/undertake surveillance. NRW (A) note the monitoring commitments outlined in Table 18.22 Monitoring commitments and advise that the GCN data should be uploaded into the Wales GCN Monitoring scheme.	
June 2023	NRW (S42 response)	With reference to Section 1.1.1.6 Legislation, please note that EPS including GCN are subject to legal protection under the Wildlife and Countryside Act 1981 under the provisions of Sections 9 (4) (b) and 9 (4) (c) only. The References to dispersal are cited in Section 1.3.1.1 Survey areas. In our view citing of references such as Cresswell and Whitworth (2004) are not applicable for high pond density landscapes/sites where large GCN populations have been recorded. Given the inclusion of this reference, NRW (A) advise that the following additional references are also cited in respect of dispersal distances:	Relevant Legislation has been updated in Volume 7, Annex 3.3 Great Crested Newt Survey Technical Report of the Environmental Statement. The references to Cresswell and Whitworth have been removed and the section 1.3.11 of Volume 7, Annex 3.3: Great Crested Newt Survey Technical Report of the Environmental Statement.
June 2023	NRW (S42 response)	With regard to Section 18.9 Cumulative effect assessment methodology, NRW (A) advise consideration of solar farm proposals. With reference to Sections 18.10.2.30 – 34, regarding the cumulative impact with the Awel y Môr Offshore Wind Farm Project, the GCN assessment does not appear to have considered the provision of a dedicated long-term GCN	The cumulative effects assessment in section 3.12 considers the St Asaph Solar Farm and Awel y Môr Offshore Wind Farm. These projects have also been taken into account when identifying areas for long term GCN mitigation as part of the Mona Offshore Wind Project. The GCN mitigation areas are

Date	Consultee and type of response	Issues raised	Response to issue raised and/or where considered in this chapter
		mitigation area.	presented in the Outline LEMP (Document Reference J22).
June 2023	NRW (S42 response)	In Section 18.12.1.3 Next Steps, the proposed approach to 2023 GCN abundance surveys is noted. In Section 18.12.1.4 Next Steps, Bat foraging dispersal surveys do not appear to have been considered. Although the approach may not be directly transferable, NRW (A) advise that surveys being undertaken to inform the HyNet scheme should be considered. In Section 18.12.1.5 Next Steps, NRW (A) note the proposals for further surveys for a number of protected species including GCN, bats, Hazel Dormouse, Water vole and Otter.	The HyNet DCO Application methodologies for Habitat Suitability (HSM) for bats was consulted, noted, and applied where relevant. Please see Volume 7, Annex 3.10: Bat Activity survey technical report of the Environmental Statement.
June 2023	EWG Response (NRW) Methodologies	Bats We understand that the main objectives of the bat surveys include determining activity levels at strategic locations. What constitutes strategic in this instance? Who does this relate to evaluating the impacts of the scheme on the current conservation status on each local population of bats? Paragraph 2.3.2.2 & 2.5.1.2 - we advise the addition of functionality to roost potential. Paragraph 2.7: What criteria was used to select the 10 key strategic locations? What about assessment of impacts of other areas used by bats for foraging and dispersal purposes? It is our view, the submitted scoping report provides limited detail in respect of the detail of the methodologies used to assess hedgerows, woodlands, linear and other features that are functionally used by bats for foraging and dispersal purposes including the rational for the selection of the 10 strategic locations. We agree that impacts excluding the construction of the	To address NRW's response the survey methodologies were updated and presented at EWG 4, full survey results were also presented at EWG6. Full details are presented in Volume 7, Annex 3.10: Bat Activity survey technical report of the Environmental Statement.

Date	Consultee and type of response	Issues raised	Response to issue raised and/or where considered in this chapter
		Substation are temporary and appropriate mitigation can be designed to ensure continued bat foraging and dispersal. We accept the bat survey methodology provided that it is noted that it does not set a precedent for future cases, including those will likely temporary impacts; and - Clarification is provided in respect of the 10 strategic locations; and - Clarification is provided in respect of other features that could be used by bats for foraging and dispersal purposes that are not being subject to detailed assessment together with comment relating to current conservation status of each local population of bats.	
June 2023	EWG Response (NRW) Methodologies	Amphibians The methodology accords with guidance on our website. In respect of torch surveys, why stop at midnight? We advise and would welcome that traditional surveys techniques are undertaken for all ponds subject to a historic record (though not required if subject to long term monitoring as identified in the proposed methodology). The detail of survey action to be informed by the results of Awel y Môr Offshore Wind Farm Project and relevant solar farm data. NRW (A) advise that the following additional references are also cited in respect of dispersal distances: • Haubrock, P.J. and Altrichter, J. (2016). Northern crested newt (*Triturus cristatus)* migration in a Nature Reserve: Multiple Incidents of Breeding Season Displacements Exceeding 1 km. The Herpetological Bulletin 138: 31-33 • Bernhard, T., Driver, D., Dyer, S., Edgar, P., Ellis, M., Foster, J., Howe, E., McKinnell, J., and Raynor, R. (2022). Guidelines for the Selection of Biological SSSIs. Part 2: Detailed	To address NRW's response the survey methodologies were updated and presented at EWG 4, full survey results were also presented at EWG6. Full details are presented in Volume 7, Annex 3.3: Great crested newt survey technical report of the Environmental Statement. Details of Awel y Môr Offshore Wind Farm Project and St Asaph Solar Farm data in addition to Cofnod data are considered in Volume 7, Annex 3.3: Great crested newt survey technical report of the Environmental Statement.

Date	Consultee and type of response	Issues raised	Response to issue raised and/or where considered in this chapter
		Guidelines for Habitats and Species Groups. Chapter 18 Reptiles and Amphibians. Joint Nature Conservation Committee, Peterborough. In Section 1.4.2.6 HSI assessment, NRW (A) note that the Habitat Suitability Index (HSI) methodology is not particularly suitable for water features that primarily function for foraging or resting purposes (as opposed to breeding). In Section 1.6.1.1 Desk study, NRW (A) note that "A summary of the more recent records are shown in Figure 1.2 to Figure 1.5, which includes records reported since 2010, with a six-figure grid reference or higher, since lower resolutions do not allow accurate calculation of distance from the boundary of the Mona Onshore Development Area" but would question why 2010? We advise that owing to the longevity of the species and detectability and behaviour of the species all extant data is used. This includes data from other schemes e.g. Awel y Môr. The results in Section 1.6.2 HSI assessment are noted. Are there any extant records for these ponds? The results in Section 1.6.3 eDNA analysis are noted. With reference to Section 1.7 Summary and Conclusion, inclusion of extant data including St. Asaph Business Park and Awel y Môr Offshore Wind Farm data is required. NRW (A) note reference to low water levels in 2022. In our view this is also applicable to 2023.	
June 2023	EWG Response (NRW) Methodologies	INNS • No mention of Invasive Alien Species (Enforcement and Permitting) Order 2019. We suggest the scope includes species subject to this legislation. Subsequent biosecurity proposals to consider diseases such as Chytrid (amphibian fungus).	Invasives are considered in Volume 7, Annex 3.2: Extended phase 1 habitat survey technical report of the Environmental Statement and also in the Great Crested Newt Mitigation Strategy (Appendix 3 of the Outline LEMP Document Reference J22). Additional measures proposed are further detailed in the Outline CoCP (Document Reference J26).

Date	Consultee and type of response	Issues raised	Response to issue raised and/or where considered in this chapter
June 2023	EWG Response (NRW) Methodologies	Other species • White Claw Crayfish - Proposed survey methodology is satisfactory • Hazel Dormouse - Proposed survey methodology is satisfactory • Otter and Water vole - Proposed survey methodology is satisfactory. Advise that LPA and ARC to provide comment on badger, aquatic invertebrates, hedgerow, NVC, reptiles and terrestrial invertebrates survey methodologies.	Response noted.
June 2023	The Woodland Trust (S42 response)	The Woodland Trust raised concerns about the potential for permanent fragmentation of woodland due to the removal of adjacent semi-natural habitats, such as small, wooded areas, hedgerows, individual trees, and wetland habitats particularly if continued access to the cable once constructed is required.	The Mona Onshore Development Area has been refined following the statutory consultation: the preferred option of the Mona Onshore Cable Corridor and the Onshore Substation have been selected; the width of the Mona Onshore Cable Corridor has been refined; and trenchless techniques will be used to cross areas of ancient woodland. Although many of the of hedgerows will be crossed by trenchless techniques as identified in Volume 5, Annex 4.3: Onshore Crossing Schedule of the Environmental Statement, there is still the option for open cut trenching through 55% of the hedgerows along the Mona Onshore Cable Corridor. However, this will seek to avoid vegetation removal, where possible, and open cut trench through gaps in hedgerows. Where hedgerow removal is required, the extent of hedgerow to be removed that has lesser ecological value, as identified in the Hedgerow Technical Report (Volume 7, Annex 3.4 of the Environmental Statement) will be selected over sections of hedgerow with high ecological value, where possible. Hedgerow removal will be temporary in nature and hedgerow re-instatement will follow, as soon as practicable, following installation of the

Date	Consultee and type of response	Issues raised	Response to issue raised and/or where considered in this chapter
			cables.
June 2023	The Woodland Trust (S42 response)	The Woodland Trust raised concerns about the potential for the trampling of sensitive ancient woodland flora and soils if access is required within any ancient woodland.	The Mona Offshore Wind Project has sought to avoid areas of ancient woodland through site selection (Volume 1, Chapter 4: Site selection and the consideration of alternatives) and the use of trenchless techniques for crossings (Volume 5, Annex 4.3: Onshore Crossing Schedule of the Environmental Statement). Buffers for construction activity will be provided around sensitive habitats such as ancient woodland (Outline CoCP (Document Reference J26)). Access to ancient woodland during the operations and maintenance phase will not be required.
June 2023	The Woodland Trust (S42 response)	A number of ancient and veteran trees within the proposed cabling corridor are recorded on the Ancient Tree Inventory. Five areas of ancient woodland are within the proposed corridor boundary, and numerous others are located within the wider work area, or adjacent to the corridor/work area boundaries. The Woodland Trust recommended that any non-ancient woodlands affected by the scheme, are reviewed to ensure any areas of potentially unmapped ancient woodland are accounted for as the scheme progresses. The Trust also highlights the importance of an arboricultural impact assessment to be undertaken early within the design process. Surveys are also recommended for detailing woodland flora and fauna alongside an assessment of historical mapping. The Trust has concerns over root damage due to the proposed route alignment corridor found. The Trust would primarily advocate for the redirection of any cabling through ancient woodland areas. However, if such works are likely to occur, it	The Mona Offshore Wind Project has sought to avoid ancient and veteran trees through site selection (Volume 1, Chapter 4: Site selection and the consideration of alternatives) and the use of trenchless techniques for crossings (Volume 5, Annex 4.3: Onshore Crossing Schedule of the Environmental Statement). An Outline LEMP (Document Reference J22) accompanies the application and details measures to avoid and protect existing trees. Measures include the use of tree RPAs will be clearly marked and fenced off during construction. The operation and maintenance of the Onshore Substation and Mona Onshore Cable Corridor should not necessitate the removal of trees or encroachment on any tree RPAs. In the unlikely event that work near a retained tree is required a method statement for that work would be agreed with the relevant tree officer. A tree survey and Arboricultural Impact Assessment (AIA) have been undertaken for the Mona Onshore Development Area and are presented in Volume 7, Annex 6.6: Tree survey and Arboricultural Impact

Date	Consultee and type of response	Issues raised	Response to issue raised and/or where considered in this chapter
		suggests using non-invasive root investigation, for ancient trees and protection beyond the limit of the usual investigative tools. Further clarification on the technique and any potential impacts are necessary.	Assessment of the Environmental Statement. An Outline Arboricultural Method Statement has been prepared which sets out measures for the protection of trees during the construction period (Document Reference J26.18).
June 2023	The Woodland Trust (S42 response)	The Trust suggests that following the measures outlined in the British Standard, BS5837:2012 guidelines, is required to ensure that trees have a root protection area (RPA) of 12 times and the stem diameter capped at 15m; and Natural England and Forestry Commission's	A tree survey and AIA have been undertaken for the Mona Onshore Development Area and are presented in Volume 7, Annex 6.6: Tree survey and Arboricultural Impact Assessment, of the Environmental Statement. An Outline Arboricultural Method Statement has been prepared which sets out measures for the protection of trees during the construction period (Document Reference J26.18).
July 2023	EWG (04) - NRW, Denbighshire County Council, Conwy County Borough Council, Welsh Government, RSPB, ARC	An update on survey progress to date was provided. RPS provided updated survey methodologies (tracked changes) for EWG to review. Survey methodologies were discussed, including relevant updates in response to EWG comments. Survey findings to date were discussed, including any additional mitigation requirements. The approach to mitigation was discussed including habitat creation/enhancement and management plans. The use of artificial badger setts on site was discussed and how off-site mitigation may be appropriate should badger setts need to be closed. A discussion was had on how the identification of onshore ecological features have informed the design of the Project, including refinement of the Mona Onshore Development Area. A discussion of the Section 42 consultation responses was covered, and it was considered how these will be addressed in the ES. GCN records were requested by NRW, and it was confirmed	Survey methodologies and results are presented in Volume 7, Annexes 3.1 to 3.15 of the Environmental Statement. GCN records will be submitted as soon as all the ecology data has been signed off by the applicant prior to the DCO submission.

Date	Consultee and type of response	Issues raised	Response to issue raised and/or where considered in this chapter
		that the data will be supplied as soon as all the ecology data has been signed off by the applicant prior to the DCO submission.	
October 2023	EWG (05) - NRW, Denbighshire County Council, Conwy County Borough Council, Welsh Government, ARC, Woodland Trust	An update on survey progress was given. • A summary of outstanding surveys was also presented. • What additional survey information for GCN, badgers, bat hibernation, Hazel Dormouse will be submitted through an addendum process to fulfil the requirements of relevant EPS licences. • Extent of surveys for bat tree roosts, approach following revised BCT bat survey guidelines (Collins 2023).	Addendums will be provided as required for EPS licensing purposes. In the absence of confirmed data, a precautionary approach has been adopted in the section 3.5. Agreed given design of the scheme pre-construction surveys are appropriate.
November 2023	NRW (via email)	Updated methodologies issued to NRW following refinements requested through Section 42 process and further refinements made by applicant's ecologists using professional judgement where methodologies were adapted or expanded.	The updated survey methodologies shared with NRW are presented in Volume 7, Annexes 3.1 – 3.15 of the Environmental Statement.
November 2023	EWG (06) - NRW, Denbighshire County Council, Conwy County Borough Council, Welsh Government, ARC, RSPB, Woodland Trust	An update on survey progress was given. • A summary of outstanding surveys was also presented. • Outline details on bat, Hazel Dormouse, GCN and reptile mitigation was presented. • NRW suggested translocation of noctule roost feature could be pole mounted. • A detailed landscape plan and strategy for GCN was discussed and agreed in principle.	This strategy is detailed in the Outline LEMP (Document Reference J22), also see section 3.9.
December 2023	NRW & ARC (email)	A request to attend site with The Applicant's Technical Lead Ecologist in February 2024 to review areas proposed for the receptor site for GCN and reptiles during construction and the area proposed for mitigation and compensation for loss of aquatic and habitat within the Mona Onshore Development Area. The purpose of the site visit is to also agree an appropriate scope and methodologies for ponds within the area of permanent temporary impact. In addition, to enable population assessments of the St Asaph GCN metapopulation	NRW and ARC have agreed to attend an onsite meeting prior to the commencement of the GCN survey season with The Applicant and the Applicant's Technical Lead Ecologist to refine scope for 2024 GCN surveys and to view the proposed mitigation areas.

Date	Consultee and type of response	Issues raised	Response to issue raised and/or where considered in this chapter
		to be undertaken in a co-ordinated manner with other schemes, developments, and initiatives in the local area.	

3.4 Baseline methodology

3.4.1 Relevant guidance

3.4.1.1 The characterisation of the baseline environment for onshore ecology has considered the following guidance:

- Offshore Wind Marine Environmental Assessments: Best Practice Advice for Evidence and Data Standards. Phase I: Expectations for pre-application baseline data for designated nature conservation and landscape receptors to support offshore wind applications (Natural England, 2022)
- Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine. Chartered Institute for Ecology and Environmental Management (CIEEM) (CIEEM, 2018)
- British Standards Institution (2013) Biodiversity – Code of Practice for Planning and Development: BS 42020:2013 (BSI, 2013)
- Institute of Environmental Assessment (IEA) (1995) Guidelines for Baseline Ecological Assessment (IEA, 1995)
- BS42020: Biodiversity – Code of Practice for Planning and Development.

3.4.2 Scope of the assessment

3.4.2.1 The scope of the assessment described in this chapter of the Environmental Statement has been developed in consultation with relevant statutory and non-statutory consultees as detailed in Table 3.7.

3.4.2.2 Taking into account the scoping and consultation process, Table 3.8 summarises the issues considered as part of this assessment.

Table 3.8: Issues considered within this assessment.

Activity	Potential effects scoped into the assessment
Construction and decommissioning phase	
Construction and decommissioning of the Mona Onshore Cable Corridor, 400 kV Grid Connection Cable Corridor, Onshore Substation, Temporary Construction Compounds and	Temporary and permanent damage to, loss of, and disturbance or fragmentation of designated nature conservations sites.
	Temporary and permanent damage to, loss of, and disturbance or fragmentation of habitats.
	Temporary or permanent impacts on protected species, Species of Principal Importance under Section 7 of the Environment (Wales) Act 2016, and other species of conservation concern. Potential impacts of pollution from spills/contaminated release on all onshore ecological receptors.
	The potential spread of INNS and associated impacts on all onshore ecology receptors.
Operations and maintenance	
Operations and maintenance of the Mona Onshore Cable Corridor, 400 kV Grid Connection Cable Corridor, and Onshore	Indirect effects and temporary disturbance on habitats.
	Temporary or permanent impacts on protected species, Species of Principal

Activity	Potential effects scoped into the assessment
Substation, including permanent access road.	Importance under Section 7 of the Environment (Wales) Act 2016, and other species of conservation concern
	Potential impacts of pollution from spills/contaminated release on all onshore ecological receptors.
	The potential spread of INNS and associated impacts on all onshore ecology receptors.

3.4.2.3 Effects which are not considered likely to be significant have been scoped out of the assessment. A summary of the effects scoped out, together with justification for scoping them out and whether the approach has been agreed with key stakeholders through either scoping or consultation, is presented in Table 3.9.

Table 3.9: Impacts scoped out of the assessment for onshore ecology.

Potential impact	Justification
The impact of temporary and permanent habitat loss on protected habitats and species during operations and maintenance of the Mona Offshore Wind Project.	Activities associated with the operations and maintenance of the Mona Onshore Development Area are unlikely to result in the temporary or permanent loss of large areas of habitat. Therefore, the potential impact on protected habitats and species arising from the temporary and permanent habitat loss during operations and maintenance of the Mona Onshore Development Area is unlikely to be significant and has been scoped out of the assessment for onshore ecology.
The impact of pollution caused by accidental spills/contaminant release on protected habitats and species during operations and maintenance of the Mona Offshore Wind Project.	Activities associated with the operations and maintenance of the Mona Onshore Development Area are unlikely to result in accidental spills/contaminant release. Notwithstanding, best practice measures incorporated into the Outline CoCP (Document Reference J26) which would include measures to avoid or minimise the significance of any accidental pollution event. Therefore, the potential impact of pollution on protected habitats and species arising from accidental spills/contaminant release during operations and maintenance of the Mona Onshore Development Area is unlikely to be significant and has been scoped out of the assessment for onshore ecology.
The impact of construction, operations and maintenance and decommissioning of the Mona Offshore Wind Project on species not listed in the EIA Scoping Report (Mona Offshore Wind Limited, 2022), including red squirrel, brown hare, fish, and aquatic invertebrates.	As part of the Mona Onshore Development Area selection and route refinement process, the Mona Onshore Development Area has been located and designed to avoid large parcels of woodland and main watercourses. Where the Mona Onshore Cable Corridor is required to cross watercourses, the selection of crossing technique for each location will take into account the sensitivity or ecological value of the watercourse, to avoid or reduce potential impacts on habitats and species. The crossing technique for each watercourse has been identified in Volume 5, Chapter 4.3: Onshore crossing schedule of the Environmental Statement. In addition, due to the limited extent and temporary nature of habitat disturbance associated with construction and decommissioning of the Mona Onshore Cable Corridor and 400 kV Grid Connection Cable Corridor, and the requirement for land to be reinstated post- construction, significant impacts on species not listed in the Mona Offshore Wind Project Scoping Report (Mona Offshore Wind Ltd, 2022) are unlikely to occur and are scoped out of the assessment for onshore ecology.

3.4.3 Methodology to inform baseline.

Onshore ecology desk study area

3.4.3.1 The onshore ecology desk study area comprises the Mona Onshore Development Area, landward MLWS and a series of buffers, each specific to a group of ecological features (the onshore ecology desk study area). The buffers used to inform the onshore ecology desk study are the maximum distances at which there could be an effect based on the nature of the receptor based on standard guidance:

- A 20 kilometre (km) buffer around the Mona Onshore Development Area for internationally designated sites, including Special Areas of Conservation (SACs), Special Protection Areas (SPAs) and Ramsar sites.
- A 5 km buffer around the Mona Onshore Development Area, for nationally designated sites, including SSSIs and National Nature Reserves (NNRs)
- A 2 km buffer around the Mona Onshore Development Area for locally designated sites, including Local Nature Reserves (LNRs) and LWSs
- A 2 km buffer around the Mona Onshore Development Area for records of protected or notable species (except for notable plant and invertebrate species)
- A 1 km buffer around the Mona Onshore Development Area for records of protected or notable plant and invertebrate species.

3.4.3.2 The location and geographic extent of the onshore ecology desk study area, including the buffer distances identified above is shown in Figure 3.1.

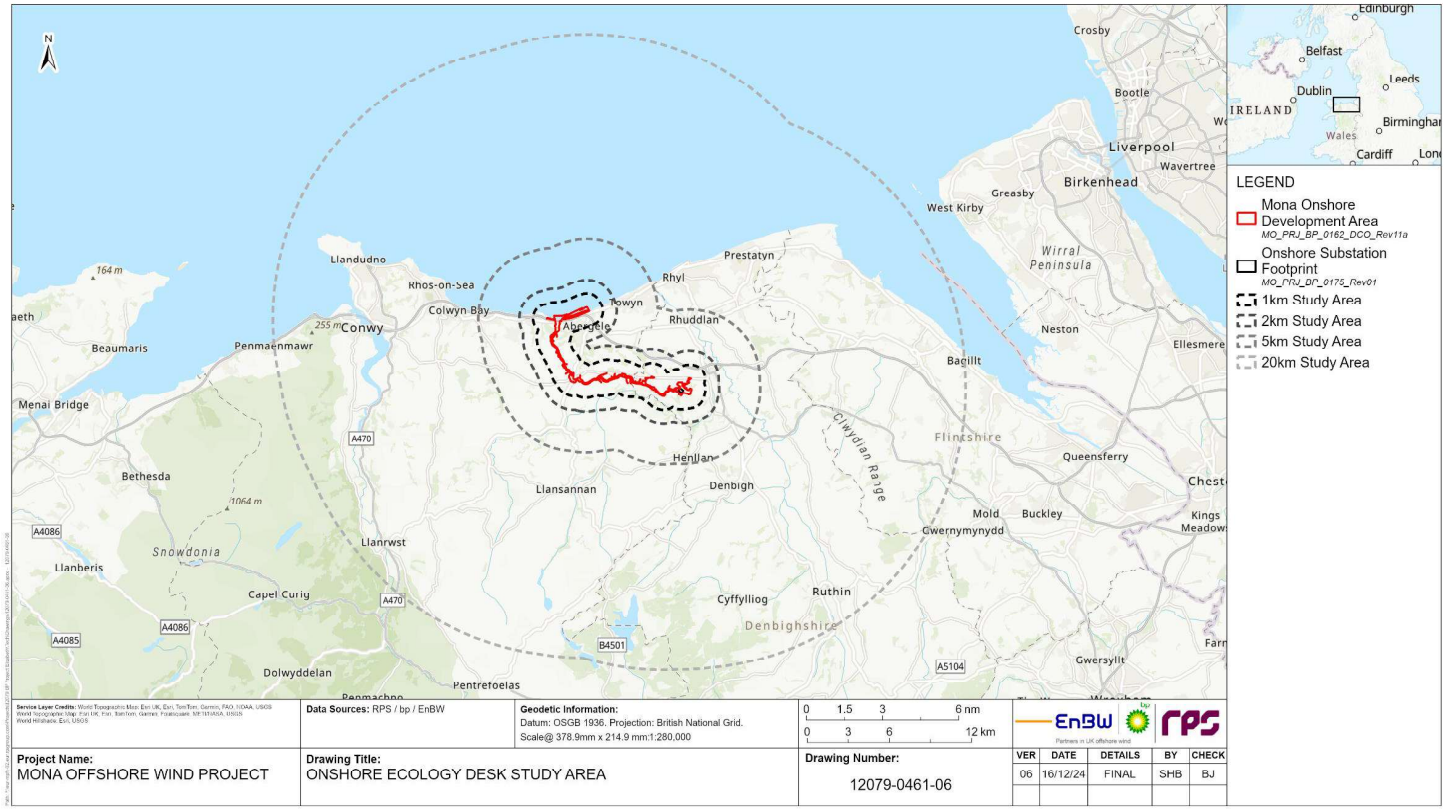

Figure 3.1: Onshore ecology desk study area.

3.4.4 Onshore ecology desk study data sources

3.4.4.1 Information on designated nature conservations sites and historical records of legally protected species or other species of conservation interest, within the onshore ecology desk study area was collected through a detailed onshore ecology desk study review of existing studies and datasets. These are summarised in Table 3.10 below. The results are presented in full in Volume 7, Annex 3.1: Onshore ecology desk study of the Environmental Statement.

Table 3.10: Summary of key desktop reports informing the onshore ecology desk study.

Title	Source	Year	Author
Historical biological records	Cofnod	2023	Cofnod
DataMapWales	Welsh Government	2023	Welsh Government
Multi-Agency Geographic Information for the Countryside (MAGIC)	Department for the Environment, Food & Rural Affairs (Defra)	2023	Defra
UK Protected Area Joint Nature Conservation Committee (JNCC)	JNCC website	2023	JNCC
The Welsh National Survey for Otter	Natural Resources Wales	2021	NRW
Distribution of the Hazel Dormouse *Muscardinus avellanarius* in Wales	Peoples Trust for Endangered Species	2023	People's Trust for Endangered Species (PTES)
Plant distribution maps	Botanical Society of Britain and Ireland (BSBI)	2023	Botanical Society of the British Isles (BSBI)
Red List	International Union for the Conservation of Nature	2023	International Union for the Conservation of Nature (IUCN)
Great Crested Newt Survey Report	Burbo Bank Extension Onshore Windfarm – Onshore Infrastructure	2022 - 2023	RPS
Great Crested Newt Survey Report	Awel y Môr Onshore Wind Farm Project Environmental Statement Annex	2022	RWE Renewables
St Asaph Business Park Monitoring GCN Report	St. Asaph Business Park Monitoring	2023	Biodiversity Advanced
St. Asaph Solar Farm Great Crested Newt Surveys	St. Asaph Solar Farm	2022	SLR
Invertebrate database	Pantheon	2023	Pantheon

3.4.5 Identification of designated sites

3.4.5.1 All designated sites within the onshore ecology study area and qualifying interest features that could be affected by the construction, operations and maintenance, and

decommissioning phases of the Mona Offshore Wind Project were identified using the three-step process described below:

- Step 1: All designated sites of international, national, and local importance within the onshore ecology desk study area were identified through a data request to Cofnod and using MAGIC
- Step 2: Information was compiled on the relevant qualifying features and other features of interest for each of these sites from the relevant site citations and descriptions obtained from the JNCC website
- Step 3: Using the above information and expert judgement, sites were included for further consideration if: a designated site directly overlaps with the Mona Onshore Development Area; or a designated site or associated qualifying interests were located within onshore ecology desk study area.

3.4.6 Site specific surveys

3.4.6.1 In order to inform this chapter, site-specific surveys were undertaken, as agreed with the statutory consultees and Local Authorities (see Table 3.7 for further details). A summary of the surveys undertaken to inform the onshore ecology impact assessment is outlined in Table 3.11 below. All surveys were undertaken by suitably qualified and experienced surveyors. Full detail so the surveyors including accreditations and licences are given in the relevant Annex.

3.4.6.2 The baseline surveys were undertaken based on an earlier iteration of the Mona Onshore Development Area. Subsequently the Mona Onshore Development Area was reduced in size, resulting in survey data extending beyond the current Mona Onshore Development Area (and any relevant survey buffer). The results from surveys undertaken beyond the Mona Onshore Development Area (i.e. surveys undertaken based on an earlier design iterations) have been included in the technical reports because they provide further context regarding the ecological sensitivity of the wider area.

Table 3.11: Summary of site-specific survey data.

Title	Extent of survey	Overview of survey	Survey contractor	Date	Reference to further information
Extended phase 1 Habitat Survey	Mona Onshore Development Area and a 150 m buffer.	All accessible habitats were mapped and described according the JNCC Phase 1 Habitat Survey method (JNCC, 2010). Habitats were assessed for their potential to be used by legally protected species and other species of conservation interest.	RPS	May 2022 to September 2023	Volume 7, Annex 3.2: Extended phase 1 habitat survey technical report of the Environmental Statement.
Great Crested Newt Survey	Mona Onshore Development Area	Comprised Habitat Suitability Index	RPS	April 2022 to June 2023	Volume 7, Annex 3.3: Great crested

Title	Extent of survey	Overview of survey	Survey contractor	Date	Reference to further information
	and a 250 m buffer.	Assessments, followed by Environmental DNA (eDNA) sampling and presence/likely absence surveys of accessible ponds.			newt survey technical report of the Environmental Statement.
Hedgerow Survey	Mona Onshore Development Area and 150m buffer.	Hedgerows were assessed against the importance criteria of the Hedgerows Regulations 1997 and assessed for condition in accordance with the Biodiversity Metric 4.0 (Natural England, 2023).	RPS	April to September 2023	Volume 7, Annex 3.4: Hedgerow survey technical report of the Environmental Statement.
Terrestrial Invertebrate Survey	Mona Onshore Development Area	Summer field samples were collected to assess the overall assemblage of invertebrates using Natural England's Pantheon system (Webb et al, 2018).	RPS	August 2023	Volume 7, Annex 3.5: Terrestrial invertebrate survey technical report of the Environmental Statement.
Aquatic Invertebrate Survey	Suitable waterbodies within the Mona Onshore Development Area and a 250m buffer.	All accessible and suitable water bodies were sampled, and samples analysed to assess biological water quality in accordance with the Biological Monitoring working Party (BMWP) System (Hawkes, 1997).	RPS	July to September 2023.	Volume 7, Annex 3.6: Aquatic invertebrate survey technical report of the Environmental Statement.
Reptile Survey	Habitats within the Phase 1 habitat survey area (which covers an earlier, larger iteration of the Mona Onshore Development Area) identified as being suitable for reptiles	Presence/absence surveys using artificial refuges were undertaken of all suitable habitat within the study area.	RPS	September and October 2023.	Volume 7, Annex 3.7: Reptile survey technical report of the Environmental Statement.

Title	Extent of survey	Overview of survey	Survey contractor	Date	Reference to further information
Water vole Survey	Watercourses within the Mona Onshore Development Area identified as being suitable for Water vole in the Phase 1 habitat survey area (which covers an earlier, larger iteration of the Mona Onshore Development Area).	Field surveys for signs of Water vole were undertaken of four watercourses in the study area identified as potentially suitable for Water vole.	RPS	May to September 2023.	Volume 7, Annex 3.8: Water vole survey technical report of the Environmental Statement.
Bat Roost Survey	Habitats within the Phase 1 habitat survey area (which covers an earlier, larger iteration of the Mona Onshore Development Area) identified as being suitable for roosting bats.	Trees, buildings, and other structures within the study area were inspected from the ground to identify potential bat roost features. Tree climbing inspections and/or emergence/re-entry surveys were conducted on potential roost features.	RPS	April to August 2023.	Volume 7, Annex 3.9: Bat roost survey technical report of the Environmental Statement.
Bat Activity Survey	Habitats within the Phase 1 habitat survey area (which covers an earlier, larger iteration of the Mona Onshore Development Area) identified as being suitable for foraging/commuting bats.	A combination remote static recording on potential flight lines/foraging areas and walked transect activity surveys of one building were undertaken.	RPS	April to October 2023.	Volume 7, Annex 3.10: Bat Activity survey technical report of the Environmental Statement.
Otter Survey	Watercourses within the Mona Onshore Development Area identified as being suitable for otter in the Phase 1 habitat survey area (which covers an earlier, larger iteration of the Mona Onshore Development Area).	A search was made for otter field signs of all suitable watercourses in the study area.	RPS	April to October 2023.	Volume 7, Annex 3.11: Otter survey technical report of the Environmental Statement.
Badger Survey	Mona Onshore Development Area	A search was made for badger	RPS	April to July 2023, Sept,	Volume 7, Annex 3.12: Badger

Title	Extent of survey	Overview of survey	Survey contractor	Date	Reference to further information
	and a 30 m buffer.	field signs including setts, of all suitable habitat in the study area.		and October 2023.	survey technical report of the Environmental Statement.
Hazel Dormouse Survey	Habitats within the Phase 1 habitat survey area (which covers an earlier, larger iteration of the Mona Onshore Development Area) identified as being suitable for Hazel Dormouse.	Nest tube surveys were undertaken of all suitable habitat within the study area.	RPS	May to November 2023.	Volume 7, Annex 3.13: Hazel Dormouse survey technical report of the Environmental Statement.
National Vegetation Classification (NVC) Botanical Survey	Habitats within the Phase 1 habitat survey area (which covers an earlier, larger iteration of the Mona Onshore Development Area) identified as being suitable for Hazel Dormouse.	Botanical surveys using the NVC method () were targeted at areas identified in the Phase 1 Habitat Survey as potentially having high botanical value.	RPS	June to September 2023.	Volume 7, Annex 3.14: National Vegetation Classification and Invasive Non-Native Species survey technical report of the Environmental Statement.
INNS survey	Mona Onshore Development Area	INNS surveys to search for signs of any INNS were undertaken alongside the Phase 1 habitat survey, hedgerow surveys and NVC surveys.	RPS	May 2022 to September 2023.	Volume 7, Annex 3.14: National Vegetation Classification and Invasive Non-Native Species survey technical report of the Environmental Statement.
Fish and Eel Survey	Watercourse within the Mona Onshore Development Area and a 250 m buffer	Habitat suitability assessments of watercourses were followed by electric fishing sampling of watercourses identified as suitable to support fish.	RPS	June to September 2023.	Volume 7, Annex 3.14: National Vegetation Classification and Invasive Non-Native Species survey technical report of the Environmental Statement.

3.4.7 Mona Onshore Development Area sections

3.4.7.1 The Mona Onshore Development Area has been divided into ten Sections numbered 1A, 1B, 2, 3, 4, 5, 6, 7, 8 and 9 for the purpose of the Phase 1 Habitat Reporting (see Volume 7, Annex 3.2 Phase 1 Habitat survey of the Environmental Statement. The Sections of the Mona Onshore Development Area are shown on Figure 3.2. In the

following baseline section, the results of baseline surveys are described with reference to these sections.

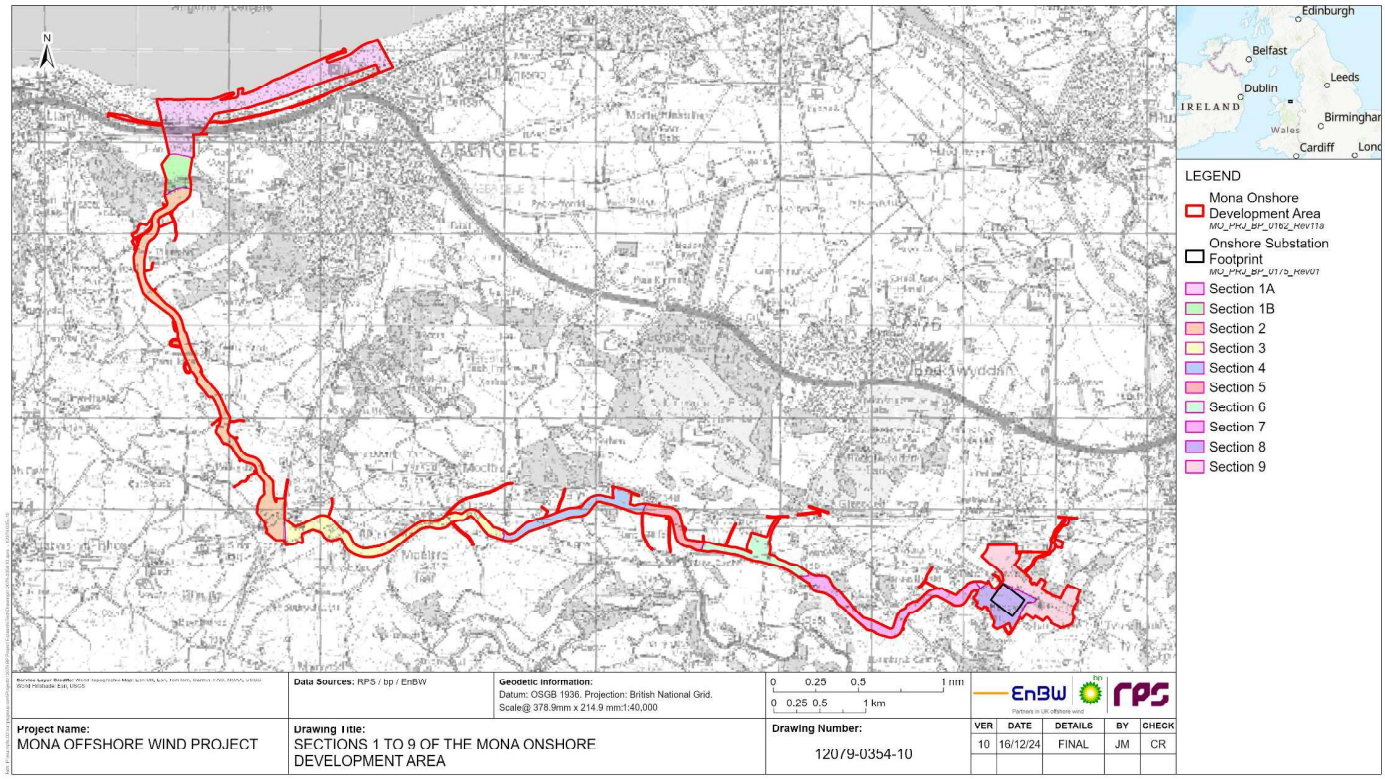

Figure 3.2: Mona Onshore Development Area Sections.

3.5 Baseline environment

3.5.1 Important ecological features

3.5.1.1 In accordance with the Chartered Institute of Ecology and Environmental Management (CIEEM) IEFs are habitats, species or designated sites identified through the ecology desk study and field surveys that are of conservation interest or concern and that could be significantly affected by the Mona Offshore Wind Project.

3.5.1.2 Potential IEFs were identified through the comprehensive onshore ecology desk study and baseline site specific surveys, and include species populations, habitats, and designated sites within the Onshore Ecology Desk Study Area and on which there could be potential effects as a result of the Mona Offshore Wind Project would be considered to be significant.

3.5.1.3 The determination of IEFs in this assessment is based on several criteria depending on the nature of the receptors.

3.5.1.4 Ecological features can be important for a variety of reasons and the rationale used to identify them is explained below. Importance may relate, for example, to protected status, the quality or extent of the site or habitats therein; habitat and/or species rarity; the extent to which such habitats and/or species are threatened throughout their range, or to their rate of decline.

3.5.1.5 Important habitats are considered here to be:

- Habitats listed on Annex 1 of the Habitats Directive, as far as it applies to the UK and as transposed by The Conservation of Habitats and Species Regulations 2017
- Habitats of principal importance for biodiversity under S7 of the Environment (Wales) Act 2016
- Irreplaceable habitats such as (but not limited to), ancient woodland and veteran trees.
- Habitats which comprise a significant habitat resource for an important species.

3.5.1.6 Important species are considered here to be:

- Of European conservation importance (as listed on Annexes II, IV and V of the Habitats Directive or Annex 1 of the Birds Directive) as far as it applies to the UK and as transposed by The Conservation of Habitats and Species Regulations 2017
- Specially protected under the terms of the Wildlife and Countryside Act 1981
- Of principal importance for biodiversity under S7 of the Environment (Wales) Act 2016
- Which are listed as a Nationally Rare or Nationally Scarce species (e.g. in one of the Species Status Project reviews) or listed as a nationally notable species where a more recent assessment of the taxonomic group has not yet been undertaken
- Endemic to a country or geographic location (it is appropriate to recognise endemic sub-species, phenotypes, or cultural behaviours of a population that are unique to a particular place).

3.5.1.7 The CIEEM guidelines state that the importance of an ecological feature should be considered within a defined geographical context. Potential IEFs are assigned a value based on their biodiversity conservation value and the need to conserve representative

areas of habitats and genetic diversity of species populations. Potential IEFs were given a value on a geographical scale as described in Table 3.12.

Table 3.12: Geographical categories of importance for potential ecological receptors.

Level of Designation	Potential effects scoped into the assessment
Construction phase	
International or European	European sites including SACs, SPAs, Ramsar Sites and candidate sites, areas of habitat or populations of species which meet the published selection criteria based on discussions with NRW and field data collected to inform the Environmental Statement for designation as a SAC, but which are not themselves currently designated at this level. Sites which have features sufficiently unique or unusual as to be considered one of the highest quality examples in an international or national context and therefore are likely to qualify as a site of European or international importance. Resident, or regularly occurring, populations of species which may be considered at an International or European level where: • The loss of these populations would adversely affect the conservation status or distribution of the species **at this geographic scale**; or • The population forms a critical part of a wider population **at this scale**; or • The species is at a critical phase of its life cycle **at this scale**.
National	Sites of UK or National Importance (e.g. SSSI & NNR). Sites which have features sufficiently unique or unusual as to be considered one of the highest quality examples nationally and therefore are likely to qualify as a site of national importance. Areas (and the populations of species which inhabit them) which meet the published selection criteria guidelines for selection of biological SSSIs, but which are not themselves designated based on field data collected, and in agreement with NRW. Environment (Wales) Act 2016 Section 7 Priority species & Priority habitats and legally protected species that are not addressed directly in Part 2 of the "Guidelines for Selection of Biological SSSIs" but can be determined to be of national importance. Resident, or regularly occurring, populations of species which may be considered at an International, European, UK or National level where: • The loss of these populations would adversely affect the conservation status or distribution of the species **at this scale**; or • The population forms a critical part of a wider population **at this scale**; or the species is at a critical phase of its life cycle **at this scale**. Large areas of priority habitats listed on Annex 1 of the Habitats Directive and smaller areas that are essential to maintain the viability of that ecological resource. Some priority habitats in UK Biodiversity Action Plan (BAP) and NERC Act (2006), and areas of ancient woodland (e.g. woodland listed within the Ancient Woodland Inventory).
Regional	Sites of Regional (Northeast Wales). Sites which have features sufficiently unique or unusual as to be considered one of the highest quality examples in the regional/county context and therefore are likely to qualify as a site of regional/county importance. Resident, or regularly occurring, populations of species which may be considered at an International, European, UK or National level where: • The loss of these populations would adversely affect the conservation status or distribution of the species **at this scale**; or • The population forms a critical part of a wider population **at this scale**; or • The species is at a critical phase of its life cycle **at this scale**. Large areas of modified or degraded priority habitats, which are important in a regional context.
County	LNRs and Non-statutory designated sites of county (Denbighshire and Conwy) Importance (e.g.

Level of Designation	Potential effects scoped into the assessment
	Sites of Nature Conservation Importance (SINCs), LNRs, LWSs and ancient woodland). Areas which based on field data collected to inform the Environmental Statement meet the published selection criteria for those sites listed above (for habitats or species, including those listed in relevant Local Biodiversity Action Plans) but which are not themselves designated.
District	Habitats and species and legally protected species that based on their extent, population size, quality etc are determined to be at a lesser level of importance than the geographic contexts above. Common and widespread semi-natural habitats occurring in proportions greater than may be expected in the district context. Common and widespread native species occurring in numbers greater than may be expected in the district context.
Local	Habitats and species and legally protected species that based on their extent, population size, quality etc are determined to be at a lesser level of importance than the geographic contexts above. Common and widespread semi-natural habitats occurring in proportions greater than may be expected in the local context. Common and widespread native species occurring in numbers greater than may be expected in the local context.
Negligible	Common and widespread semi-natural habitats and species that do not occur in levels elevated above those of the surrounding area. Areas of heavily modified or managed land uses (e.g. hard standing used for car parking, as roads etc.).

3.5.1.8 It is important to consider factors other than legal status, such as its distribution, rarity, population trends, and the size of the population which would be affected as well as the geographical level at which the species is protected. For example, whilst the GCN is protected under European law, and therefore conservation of the species is at the international level of importance, this does not mean that every population of GCN is internationally important. It is important to consider the population in its context. Thus, in assigning values to species, the geographic scale at which they are important has been considered. The assessments of value rely on the professional opinion and judgement of experienced ecologists.

3.5.1.9 Where appropriate, reference is also made to social benefits that species and habitats deliver (e.g. relating to enjoyment of flora and fauna by the public) and economic benefits that they provide, but only where these are deemed material considerations.

3.5.1.10 Potential ecological receptors are described briefly below. Full details of all baseline habitats, designated sites and species are provided in Volume 7, Annexes 3.1 to 3.15 of this Environmental Statement. A summary of the potential ecological receptors, and whether they are considered to be IEFs for the purpose of this assessment is given in Table 3.17.

3.5.2 Statutory Designated sites

3.5.2.1 Statutory designated sites identified for the onshore ecology chapter are described below in Table 3.13. More detailed information is provided in Figure 2.1 and Figure 2.2 of Volume 7, Annex 3.1: Onshore ecology desk study technical report of the Environmental Statement.

Table 3.13: Statutory designated sites and relevant qualifying interests for the onshore ecology chapter.

Designated site	Closest distance to the Mona Onshore Development Area (km)	Relevant qualifying interest
European Designations		
Coedwigoedd Dyffryn Elwy/Elwy Valley Woods SAC	0.81	Tilio-Acerion Forest on Carboniferous limestone with a rich understorey and ground flora, and rare bryophytes. Not taken forward to assessment as no mobile features, such as bats or birds, which could use Mona Onshore Development Area.
Coedwigoedd Penrhyn Creuddyn/Creuddyn Peninsula Woods SAC	9.4	Tilio-Acerion forests of slopes, screes and ravines, semi-natural dry grasslands and scrubland facies on calcareous substrates, and English yew *Taxus baccata* woods. This SAC was not taken forward to assessment as no mobile features, such as bats or birds, which could use Mona Onshore Development Area.
Llwyn SAC	9.78	Alluvial forest on the floodplain of the river Clywedog. Not taken forward to assessment as no mobile features, such as bats or birds, which could use Mona Onshore Development Area.
Y Fenai a Bae Conwy/Menai Strait and Conwy Bay SAC	10.58	Sandbanks, which are always slightly covered by sea water, mudflats and sandflats not covered by seawater at low tide, reefs, large shallow inlets, and bays and submerged or partially submerged sea caves. Not taken forward to assessment as no mobile features such as bats or birds, which could use Mona Onshore Development Area.
Aber Dyfrdwy/Dee Estuary SAC/SPA/Ramsar	11.05	A wide variety of habitat including mudflats and sandflats, Salicornia and other annuals colonising mud and sand, Atlantic salt meadows, estuaries, annual vegetation of drift lines, vegetated sea cliffs, dunes, and dune slacks. Species include sea lamprey *Petromzon marinus*, river lamprey *Lampetra fluviatilis* petalwort *Petalophyllum ralfsii* and 13 wildfowl species. Not taken forward for assessment for onshore ecology but taken forward for assessment in Onshore and Intertidal Ornithology Volume 7, Chapter 4 of the Environmental Statement.
Mynydd Helygain/Halkyn Mountain SAC	13.54	Calaminarian grasslands of the Violetalia calaminariae, European dry heaths, semi-natural dry grasslands, and scrubland facies on calcareous substrates, and Molinia meadows on calcareous peaty or clayey-silt-laden soils and a large GCN great crested newt *Triturus cristatus*

Designated site	Closest distance to the Mona Onshore Development Area (km)	Relevant qualifying interest
		breeding population.
Pen y Gogarth/Great Orme's Head SAC	14.15	European dry heaths and semi-natural dry grasslands and scrubland facies on calcareous substrates and vegetated sea cliffs.
Coedwigoedd Dyffryn Alun/Alyn Valley Woods SAC	17.43	Tilio-Acerion Forest on the Carboniferous limestone, semi-natural dry grasslands, and scrubland facies on calcareous substrates; and alluvial forests with alder and ash.
Mwyngloddiau Fforest Gwydir/Gwydyr Forest Mines SAC	18.82	Calaminarian grasslands of the *Violetalia calaminariae*, and a lesser horseshoe *Rhinolophus hipposideros* bat colony. Not taken forward to assessment due to distance from Mona Onshore Development Area and the low dispersal range of lesser horseshoe bats.
Eryri/Snowdonia SAC	18.75	Numerous habitats and species including Oligotrophic to mesotrophic standing waters, alpine, montane, and rocky slope plant communities, wet and dry heaths, blanket bog and other wetlands, woodland, slender green feather-moss, *Drepanocladus vernicosus* and floating water-plantain *Luronium natans*.
National Designations		
Llanddulas Limestone and Gwrych Castle Wood SSSI	0	Limestone grassland, heath, and woodland vascular plants; bryophytes; butterflies; moths and a winter roost of lesser horseshoe bat.
Traeth Pensarn SSSI	0	Vegetated shingle beach plant communities.
Coedydd ac Ogofau Elwy a Meichion SSSI	0.81	Semi-natural broadleaved woodland, rare flowering plant assemblage, scarce bryophyte assemblage, roosting bats.
Coed y Gopa SSSI	0.82	Many natural caves and underground mine workings with hibernating bats including of lesser horseshoe bat.
Mynydd Marian SSSI	2.48	Limestone grassland and the silver studded blue butterfly *Plebejus argus ssp. caernensis*.
Coedydd Derw Elwy SSSI	3.92	Semi-natural broadleaved woodland

3.5.2.2 For the purpose of this assessment the sites listed in Table 3.13 are considered to be of either international or national value in accordance with the legal protection status.

3.5.3 Non-statutory designated sites

3.5.3.1 There are 76 non-statutory nature conservation designations within the 2 km buffer of the Mona Onshore Development Area (see Figure 2.3 and Figure 2.4 of Volume 7, Annex 3.1: Onshore ecology desk study technical report of the Environmental Statement).

3.5.3.2 There are two non-statutory LWS 'Coed Cord' and 'Coed y Saeson' which comprise two parcels of ancient woodland. Both are located partially located within Section 9 of the Mona Onshore Development Area. A further 13 LWSs are located between 30 m and 250 m from the Mona Onshore Development Area, with 9 LWSs between 250 m and 500 m away and 18 LWSs between 500 m and 1 km away. The remaining 53 LWS are located between 1 km and 2 km from the Mona Onshore Development Area.

3.5.3.3 For the purpose of this assessment the non-statutory designated sites are considered to be of county value.

3.5.4 Habitats of Principal Importance

Ancient Woodland

3.5.4.1 Section 1b of the Mona Onshore Development Area includes a 3.61 ha section of the Llanddulas Limestone and Gwrych Castle Wood SSSI which is classified as Ancient Semi-natural Woodland (see Volume 7, Annex 3.1: Onshore ecology desk study technical report of the Environmental Statement).

3.5.4.2 In addition to the ancient woodland within the Llanddulas Limestone and Gwrych Castle Wood SSSI, there are a further 10 parcels of ancient woodland located within the Mona Onshore Development Area or within a 30 m. In addition, there are 156 ancient woodland parcels within a 2 km buffer of the Mona Onshore Development Area (see Figure 2.5, Volume 7, Annex 3.1: Onshore ecology desk study technical report of the Environmental Statement):

- In Section 2, a block of ancient woodland on either side of an access road to this section, and continuous with woodland in the Llanddulas Limestone and Gwrych Castle Wood SSSI
- In Section 2 at its southern end, a small ancient woodland block adjoining the Mona Onshore Development Area immediately north of the B5381.
- In Section 3, two small woodland blocks, one on either side of the Mona Onshore Development Area
- In Section 4, two woodland blocks one on either side of the Mona Onshore Development Area
- In Section 5, one linear woodland block adjoining the southern side of the Mona Onshore Development Area
- In Section 6, one woodland block adjoining the northern side of the Mona Onshore Development Area
- In Section 7, one woodland block adjoining the northern side of the Mona Onshore Development Area, which lies partially within the Mona Onshore Development Area

- In Section 9, two linear woodland blocks within the Mona Onshore Development Area.

3.5.4.3 Of the 11 ancient woodland parcels within or adjoining the Mona Onshore Development Area, the most ecologically important is the parcel that makes up the Llanddulas Limestone and Gwrych Castle Wood SSSI. The cable route passes through this area of ancient woodland which extends across the Mona Onshore Development Area. This parcel of ancient woodland is a key feature of interest of the SSSI due to its particular habitat type and therefore, it is of national value.

3.5.4.4 Of the other areas of ancient woodland, three are located within or adjacent to the Mona Onshore Development Area, which comprise Coed Nant Meifod, Coed Carreg-Dayydd and Coed y Ddol. These three areas of ancient woodland do not fall within any statutory designations. These parcels of ancient woodland make up only a small proportion of this habitat within the wider survey area. Taking into consideration the inherent ecological value of ancient woodland, the ancient woodland within or adjoining the Mona Onshore Development Area is considered to be of county importance.

Woodland semi-natural and plantation woodland

3.5.4.5 There is a block of semi-natural and plantation woodland to the north of the Onshore Substation within the Mona Onshore Development Area. This woodland comprises of some mature broadleaved oak along the access track to the south-east of the block, but the majority of the woodland block comprises re-planted ash trees, which are in a significant stage of decline due to ash die back disease (*Hymenoscyphus fraxineus*). The woodland block is also interspersed with conifer plantation. Taking into consideration the inherent ecological value of the woodland habitats within or adjoining the Mona Onshore Development Area is considered to be of district importance.

Lowland mixed deciduous woodland

3.5.4.6 All of the broadleaved woodland within the Mona Onshore Development Area which is not ancient woodland qualifies as the Lowland Mixed Deciduous Woodland Habitat of Principal Importance. This habitat makes up less than 1% of the Mona Onshore Development Area and is therefore of no more than local value.

Traditional orchard

3.5.4.7 The onshore ecology desk study identified 66 traditional orchards within 2km of the Mona Onshore Development Area (see Figure 2.6 of Volume 7, Annex 3.1: Onshore ecology desk study technical report of the Environmental Statement). None are located within the Mona Onshore Development Area although one adjoins the boundary of Section 7. Most are located several hundred metres outside of the Mona Onshore Development Area.

3.5.4.8 Given the absence of Traditional Orchards within the Mona Onshore Development Area and the distance of most of the orchards from the Mona Onshore Development Area, Traditional Orchards are considered to have no more than local value.

Hedgerows

3.5.4.9 A total of 514 individual hedgerows (with total length of 79 km) were identified within the hedgerows survey area, which included a 2 km buffer around the Mona Onshore

Potential Development Area. Of these, 232 hedgerows with a total combined length of 36.7 km were located throughout all sections of the Mona Onshore Development Area (see Volume 7, Annex 3.4: Hedgerow survey technical report of the Environmental Statement).

3.5.4.10 The hedgerows were assessed for their ecological importance under the Hedgerow Regulations 1997. The hedgerows were also assessed for their condition using the Biodiversity Net Gain (BNG) habitat condition assessment criteria (Natural England, 2023). While the assessment of BNG in Wales does not require the use of the Natural England habitat condition assessment criteria, they provide a more graded assessment of ecological value which recognises the ecological importance of hedgerows which may not qualify as important under the Hedgerow Regulations 1997, while also identifying where important hedgerows are in poor condition.

3.5.4.11 The results of the combined ecological importance and condition assessments of the hedgerows are summarised in Table 3.14.

Table 3.14: Summary of condition and ecological importance (under the Hedgerow Regulations 1997) of hedgerows.

Hedgerow Regulations survey result	Within Mona hedgerows survey area			Within Mona Onshore Development Area		
	Poor condition	Moderate condition	Good condition	Poor condition	Moderate condition	Good condition
Ecologically important	3.4 km	11.5 km	20.0 km	1.5 km	6.1 km	9.4 km
Not ecologically important	4.7 km	15.4 km	24.0 km	2.3 km	7.3 km	10.2 km

3.5.4.12 Some of the hedgerows have been assessed as suitable to be used by Hazel Dormouse *Muscardinus avellanarius*, or as flightlines/foraging habitat for bats. Where this is the case, they are considered under the relevant species heading in section 3.9.

3.5.4.13 All hedgerows are Habitats of Principal Importance under Section 7 of the Environment (Wales) Act 2016. A considerable proportion of the hedgerows were classed as ecologically important under the Hedgerows Regulations 1997, and the majority of all hedgerows (including non-important hedgerows) were in moderate or good condition.

3.5.4.14 While hedgerows are present extensively in the wider area around the Mona Onshore Development Area, they are an important feature in the intensively manged agricultural landscape. The extent of hedgerows within the Mona Onshore Development Area and survey area confers significant value on the hedgerow resource as a whole, and it is considered to be of county value.

Open mosaic on previously developed land (OMH)

3.5.4.15 There are five areas of OMH located within 2 km of the Mona Onshore Development Area. None of this habitat was within the Mona Onshore Development Area.

3.5.4.16 Given the absence of OMH within the Mona Onshore Development Area and the distance of the identified parcels of OMH from the Mona Onshore Development Area OMH habitats are considered to be of local value.

Wood pasture and parkland

3.5.4.17 There is one area of Wood Pasture and three areas of Parkland within 2 km of the Mona Onshore Development. None is located within the Mona Onshore Development Area.

Lowland heath

3.5.4.18 There are 34 areas of Lowland Heath within 2 km of the Mona Onshore Development Area. None of the lowland heath was within the Mona Onshore Development Area.

3.5.4.19 Lowland heath is reasonably extensive within the onshore ecology desk study search area, and a considerable proportion of it is located within the Llanddulas Limestone and Gwrych Castle Wood SSSI. In this context, the lowland heath is of national value.

Lowland dry acid grassland

3.5.4.20 There are 39 areas of Lowland Dry Acid Grassland within 2 km of the Mona Onshore Development Area. A small part of one of these area lies within the Mona Onshore Development Area. Most of the dry acid grassland is located outside of the Mona Onshore Development Area, and there a significant extent of this habitat type beyond the onshore ecology desk study area. Overall lowland acid grassland is considered to be of district value.

Lowland fens and reedbeds

3.5.4.21 There are four areas of Lowland Fens and Reedbeds within 2 km of the Mona Onshore Development Area. None of this habitat was within the Mona Onshore Development Area.

3.5.4.22 Given the absence of Lowland Fens and Reedbeds within the Mona Onshore Development Area and the distance of the identified parcels of Lowland Fens and Reedbeds from the Mona Onshore Development Area Lowland Fens and Reedbeds habitats are considered to be of local value.

Grazing marsh

3.5.4.23 There are three areas of Grazing Marsh Within 2 km of the Mona Onshore Development Area. None of these areas are within the Mona Onshore Development Area.

3.5.4.24 Given the absence of Grazing Marsh within the Mona Onshore Development Area and the distance of the identified parcels of Grazing Marsh from the Mona Onshore Development Area Grazing Marsh is considered to be of local value.

Lowland calcareous grassland

3.5.4.25 The small extent of calcareous grassland in Section 2 within the Mona Onshore Development Area was classified as NVC community CG7a in the NVC survey and has a good diversity of indicator species. There for it qualifies as Calcareous Grassland a Habitat of Principal Importance listed in Section 7 of the Environment (Wales) Act 2016.

3.5.4.26 While it is limited in extent within the Mona Onshore Development Area, this habitat is uncommon particularly in Wales National archives (2011). A substantial proportion of

this habitat also lies within the Llanddulas Limestone and Gwrych Castle Wood SSSI. In this context it is of national value.

Rivers and watercourses

3.5.4.27 There are no Main Rivers identified within the Mona Onshore Development Area.

3.5.4.28 There are 10 ordinary watercourses within the Mona Onshore Development Area (see Volume 7, Annex 3.2: Phase 1 habitat survey technical report of the Environmental Statement). These are (from north to south):

- In Section 2 at Nant Fawr west of the A548, a tributary of The River Dulas flowing west
- In Section 2 at Pen-Y-Bryn west of the A548, two small unnamed streams/drainage channels
- In Section 3 at Bryn-tywydd south of the B5381 and east of the A548, three tributaries flowing north into the (off-site) Nant-y-Bryniau watercourse
- In Section 9 an unnamed watercourse alongside the north access to the Onshore Substation location, flowing north to join the Nany-y- Faenol (which in turn flows into the River Clywd) some 950 m to the north of the Mona Onshore Development Area
- In Section 9 an unnamed watercourse along the eastern edge of the Onshore Substation location, flowing north to join the River Elwy at St Asaph.

3.5.4.29 There are several additional ordinary watercourses present within the 1 km buffer zone which eventually drain to the River Elwy/River Clwyd to the south.

3.5.4.30 The watercourses have potential to support Water vole and otter. Where these species are present, the pond or watercourse is treated as habitat for that species and evaluated on that basis (see section 3.9).

3.5.4.31 The watercourses within the Mona Onshore Development Area are a small proportion of the watercourses within the CCBC and DCC Areas, which include larger watercourses (The River Elwy, River Clwyd, and the River Dulas) as well as smaller named and unnamed watercourses some of which are tributaries of the larger rivers.

3.5.4.32 The potential value of the onsite watercourses is enhanced by virtue of the fact they have hydrological connections to larger main rivers and thus form part of these catchments. In this context the onsite watercourses are considered to be of county value.

Ponds

3.5.4.33 A total of 162 ponds were identified within a 2 km buffer of the Mona Onshore Development Area as part of the Onshore ecology desk study and phase 1 habitat survey. Of these 17 are located within or adjoining the Mona Onshore Development Area.

3.5.4.34 Ponds are priority habitats under Section 7 of the Environment (Wales) Act 2016.

3.5.4.35 The ponds within the Mona Onshore Development Area are only a small proportion of the numerous ponds in Phase 1 habitat survey are and the wider surrounding area. Some of these ponds may support GCN from the St Asaph metapopulation. None of the ponds within the Mona Onshore Development Area were considered to have more than moderate biological water quality based on their aquatic plant and invertebrate

diversity (see Volume 7, Annex 3.6: Aquatic invertebrate survey technical report of the Environmental Statement).

3.5.4.36 In this context the ponds within the Mona Onshore Development Area are considered to be of no more than district value.

Other habitats

3.5.4.37 Summaries of the habitat types present and their extent within the Mona Onshore Development Area are shown in Table 3.15 and Table 3.16. for linear habitats.

Table 3.15: Summary of area habitats within the Mona Onshore Development Area.

*Habitats in bold include Habitats of Principal Importance for Nature Conservation in Wales under the Environment (Wales) Act, 2016.

Area Habitat type	Area within sections 1 to 9 of the Mona Onshore Development Area (ha)											
	1A	1B	2	3	4	5	6	7	8	9	Total in Mona Onshore Development Area	Proportion of total habitats within the Mona Onshore Development Area.
Improved grassland	0	0	30.42	18.44	14.97	2.27	12.76	17.1	0.26	33.41	129.62	60.40%
Arable	0	4.73	9.7	0	0.92	4.81	2.2	0	0	0	22.37	10.42%
Semi-improved neutral grassland	0	0	3.1	1.41	0.41	0	0	0.13	10.26	4.68	19.99	9.31%
Poor semi-improved grassland	0.19	0	4.62	1.66	0.35	1.55	0.38	6.53	0	0.12	15.41	7.18%
Semi-natural broadleaved woodland and plantation	0.96	3.61	0.2	0.06	0.3	0	0	0.07	0	0.64	5.84	2.72%
Semi-improved calcareous grassland	5.16	0	0	0	0	0	0	0	0	0	5.16	2.40%
Broadleaved parkland/ scattered trees	0.13	2.21	0.03	0.09	0.02	0	0	0.12	1.17	1.11	4.89	2.28%
Hardstanding	1.15	0	0.74	0	0	0	0	0	0.19	0.69	2.76	1.29%
Semi-improved	0	0	0	2.05	0	0	0	0	0	0	2.05	0.96%

Area Habitat type	Area within sections 1 to 9 of the Mona Onshore Development Area (ha)											
	1A	1B	2	3	4	5	6	7	8	9	Total in Mona Onshore Development Area	Proportion of total habitats within the Mona Onshore Development Area.
acid grassland												
Tall ruderal	0.56	0	0.26	0.23	0.06	0	0	0	0	0.2	1.31	0.61%
Bare ground	0	0	0.13	0.07	0	0	0.36	0.23	0	0.35	1.14	0.53%
Semi-natural mixed woodland	0	0	0	0	0	0	0	0	0	1.13	1.13	0.53%
Dense/ continuous scrub	0.1	0	0.23	0.07	0	0	0	0.12	0	0.1	0.63	0.29%
Other habitat (includes vegetated coastal shingle, and beach)	0	0	0.43	0	0.08	0	0.01	0.05	0	0.02	0.6	0.28%
Marsh/ marshy grassland	0	0	0.06	0.49	0	0	0	0	0	0	0.55	0.26%
Amenity grassland	0.39	0	0	0	0	0	0	0	0	0	0.39	0.18%
Scattered scrub	0.32	0	0	0	0	0	0	0.04	0	0	0.36	0.17%
Standing water	0	0	0.01	0	0	0	0	0	0	0.16	0.17	0.08%
Scattered bracken	0	0	0	0.12	0	0	0	0	0	0	0.12	0.06%
Plantation mixed woodland	0	0	0	0	0	0	0	0	0	0.11	0.11	0.05%
Continuous bracken	0	0	0	0.02	0	0	0	0	0	0	0.02	0.01%
TOTAL	**8.96**	**10.55**	**49.93**	**24.71**	**17.11**	**8.63**	**15.71**	**24.39**	**11.88**	**42.72**	**214.62**	**100.00%**

Table 3.16: Summary of linear habitats within the Mona Onshore Development Area.

*Habitats in bold include HPI'S of Principal Importance for Nature Conservation in Wales under the Environment (Wales) Act, 2016.

Habitat	Section Length within Mona Onshore Development Area (km)										
	1A	1B	2	3	4	5	6	7	8	9	Total in Mona Onshore Development Area
Broadleaved scattered tree	0.00	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12
Running water	0.00	0.00	0.32	0.55	0.00	0.00	0.00	0.00	0.00	0.58	1.45
Mesotrophic running water	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.10
Native species-rich defunct hedgerow	0.14	0.00	1.12	1.09	1.12	0.03	0.50	1.49	0.89	0.83	7.20
Species-poor intact hedgerow	0.00	0.00	1.87	0.41	1.08	0.43	0.81	1.02	0.63	1.32	7.56
Defunct hedgerow	0.00	0.00	0.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.44
Native species-rich defunct hedgerow	0.00	1.31	0.00	0.10	0.27	0.00	0.00	0.10	0.00	0.10	1.87
Species-poor defunct hedgerow	0.30	0.00	1.17	0.82	0.13	0.12	0.24	0.40	0.30	0.31	3.79
Native species-rich hedgerow with trees	0.00	0.00	0.98	1.80	0.53	0.01	0.99	1.20	0.19	0.51	6.21
Species-poor hedgerow with trees	0.00	0.00	0.94	0.99	0.00	0.44	0.00	0.07	0.00	2.39	4.84
Fence	0.62	0.00	2.16	0.84	0.50	0.13	0.07	2.55	0.86	6.84	14.58
Wall	0.72	0.00	0.32	0.08	0.00	0.00	0.22	0.00	0.00	0.00	1.34
Dry ditch	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.20	0.00	0.80	1.04
Earth bank	0.00	0.00	0.00	0.00	0.00	0.10	1.18	0.00	0.00	0.00	1.28
TOTAL	**1.78**	**1.31**	**9.47**	**6.69**	**3.63**	**1.27**	**4.01**	**7.03**	**2.87**	**13.78**	**51.84**

Improved grassland

3.5.4.38 The majority of the Mona Onshore Development Area (approx. 60.4% in area) comprises improved agricultural grassland which is present in all Sections except 1a and 1b. The improved grassland is almost all livestock grazed.

3.5.4.39 The improved grassland is very species-poor and is a common and widespread, and therefore is of negligible value.

Arable

3.5.4.40 Arable fields make up about 10.4% of the Mona Onshore Development Area and occurs in Section 1b, 2, 4, 5 and 6. The fields were cultivated with a mix of crops including *Lolium Perenne Leys* at the time of the survey. None of the arable field margins were managed for wildlife and therefore do not qualify as Habitats of Principal Importance under Section 7 of the Environment (Wales) Act 2016.

3.5.4.41 The arable fields are very species-poor and are a common and widespread, and therefore are of negligible value.

Semi-improved neutral grassland

3.5.4.42 Semi-improved grassland comprised about 9.3% of the habitats within the Mona Onshore Development Area. This habitat is present in Sections 3, 4, 5, 7, 8 and 9. These areas were a mix of NVC mesotrophic grasslands including MG1 *Arrhenatherum elatius* grassland, MG5 *Cynosurus cristatus - Centaurea nigra*, MG6 *Lolium perenne–Cynosurus cristatus grassland*, MG7 *Lolium perenne - Alopecurus pratensis grassland*, MG15 *Alopecurus pratensis-Poa trivialis-Cardamine pratensis* grassland. Several different subcommunities occurred within these broad classifications.

3.5.4.43 The semi-improved grassland lacked a high diversity of wild-flower species. The MG 1 community was typical of rank grassland which is very widespread on marginal areas such as road verges and uncultivated but fertile ground. The communities with perennial ryegrass as a major component (MG6 and MG7) are also indicative of higher levels of agricultural improvement and are also common and widespread. The MG 15 community also lacked good indicator species and had a low forb diversity.

3.5.4.44 The MG5 grassland was more botanically interesting with reasonably diverse assemblage of forbs including frequent key indicator species of neutral grassland. However, this was not sufficient to qualify as unimproved neutral grassland (which would be a Habitat of Principal Importance under Section 7 of the Environment (Wales) Act 2016.

3.5.4.45 Given the considerable extent of semi-improved grassland across the Mona Onshore Development Area and the small area of higher value MG5 grassland, the semi-improved grassland is considered to be of local value.

Poor semi-improved grassland

3.5.4.46 Poor semi-improved grassland comprises about 7.2% of the habitats within the Mona Onshore Development Area and is present in all Sections except 1b and 8. Across the Mona Onshore Development Area this habitat is livestock grazed at various intensities.

3.5.4.47 The species-poor semi-improved grassland has low ecological interest and is quite common and widespread. Therefore, this habitat is of negligible value.

Semi-natural broadleaved woodland

3.5.4.48 Semi-natural broadleaved woodland comprised about 2.7% of the Mona Onshore Development Area mainly as ancient woodland in the Llanddulas Limestone and Gwrych Castle Wood SSSI in Section 1b and Section 9. These are considered under designated sites (see Table 3.13).

3.5.4.49 Other very small extents of semi-natural broadleaved woodland are present along the Mona Onshore Development Area in Sections 1a, 2, 3, 4 and 7. These woodland areas qualify as the Habitat of Principal Importance under Section 7 of The Environment (Wales) Act 2016 and are assessed in paragraph 3.5.4.2 to 3.5.4.4. Semi-natural woodland is considered to be of county value.

Semi-improved calcareous grassland

3.5.4.50 Semi-improved Calcareous Grassland covers about 2.4% of the Mona Onshore Development Area, comprising a field close to the coast in Section 1A, and a small area of calcareous grassland adjoining Section 2. The small extent of calcareous grassland in Section 2 (site 20), see qualifies as Calcareous Grassland a Habitat of Principal Importance listed in Section 7 of the Environment (Wales) Act 2016 and is assessed under Habitats of Principal Importance (see Paragraph 3.5.4.25). The small extent of calcareous grassland in Section 2 is considered to be of county importance due to the NVC community species assemblage as detailed in Volume 7, Annex 3.14: National Vegetation Classification and Invasive Non-Native Species survey technical report of the Environmental Statement. The remainder of the semi-improved calcareous grassland is considered to be no more than district value due to the lack of calcareous grassland indicator species.

Broadleaved parkland/scattered trees

3.5.4.51 Outside of woodland areas and hedgerows/tree lines, there are numerous broadleaved standard trees within the Mona Onshore Development Area, with a total area of about 2.3% of the Mona Onshore Development Area, mostly in Section 18 but also Sections 1a, 2, 3, 4, 5, 6, and 9. Many of these trees are standard trees (defined as trees with a diameter at breast height of 25 cm or greater) and are classed as mature specimens for their species.

3.5.4.52 Many of the trees have features which could be used by roosting bats. Where this is the case, the trees are considered as bat habitat in section 3.9.

3.5.4.53 Mature broadleaved trees provide a valuable ecological resource with potential as habitat for a wide range of animal species, particularly small mammals, birds, and invertebrates, which could not be replaced in the short or medium term. The mature tree resource within the Mona Onshore Development Area is considered to be of county value.

Semi-improved acid grassland

3.5.4.54 Semi-improved acid grassland covers just under 1% of the Mona Onshore Development Area and comprises part of an agricultural field in Section 3. The field is livestock grazed and lacks indicator species that would confer conservation significance to the grassland. This habitat is relatively uncommon in the wider area and is considered to be of local value.

Semi-natural mixed woodland

3.5.4.55 Semi-natural mixed woodland covers about 0.53% of the Mona Onshore Development Area and is located in Section 9. This stand of woodland is Ancient Woodland and is assessed under Ancient Woodland (see paragraph 3.5.4.2 to 3.5.4.6).

Vegetated coastal shingle

3.5.4.56 The Mona Onshore Development Area includes vegetated coastal shingle adjacent to the Mona Landfall location, within which there is likely to be construction related activity.

3.5.4.57 The vegetated coastal shingle is a key feature of the Traeth Pensarn SSSI and is therefore of national value.

Standing water (ponds)

3.5.4.58 Ponds are considered under Habitats of Principal Importance (see paragraphs 3.5.4.33 to 3.5.4.36).

Other area habitats

3.5.4.59 The remainder of the Mona Onshore Development Area is made of a small area of other habitats including tall ruderal, dense continuous scrub, marshy grassland, amenity grassland, scattered scrub, scattered and continuous bracken tall ruderal, bare ground, and hardstanding.

3.5.4.60 Bare ground and hard standing have negligible ecological value.

3.5.4.61 All of the other habitats have very low ecological distinctiveness and lack significant botanical interest. All are present within the wider survey area and the wider local area within DCC and CCBC areas. In this context and given their very small extents, they are of negligible value.

Running water and mesotrophic running water (streams and rivers)

3.5.4.62 Running water features are considered under Habitats of Principal Importance (see paragraphs 3.5.4.27 to 3.5.4.32).

Hedgerows

3.5.4.63 Hedgerows are considered under Habitats of Principal Importance (See paragraphs 3.5.4.9 to 3.5.4.14).

Other linear habitats

3.5.4.64 Other linear habitats including fences, walls dry ditches, banks are very small in extent or lack any significant ecological features. Therefore, they are considered to be of negligible value.

Species

Bats

3.5.4.65 All British bat species are fully protected under the Conservation of Habitats and Species Regulations 2017 and the Wildlife and countryside Act 1981.

3.5.4.66 Common pipistrelle, soprano pipistrelle, noctule, brown long-eared bat, lesser horseshoe bat and greater horseshoe bat are also Species of Principal Importance for conservation in Wales under Section 7 of the Environment Wales Act 2016.

3.5.4.67 The desk study identified records of at least ten bat species within 2km of the Mona Onshore Development Area (see Figures 2.34 to 2.36 of Volume 7, Annex 3.1: Onshore ecology desk study technical report of the Environmental Statement). The species identified were:

- Serotine bat Eptesicus serotinus
- Whiskered/Brandt's bat Myotis mystacinus/brandtii
- Natterer's bat Myotis nattereri
- Noctule bat Nyctalus noctula
- Common pipistrelle bat Pipistrellus *pipistrellus*
- Soprano pipistrelle bat *Pipistrellus pygmaeus*
- Brown long-eared bat, *Plecotus auritus*
- Greater horseshoe bat Rhinolophus ferrumequinum
- Lesser horseshoe bat Rhinolophus hipposideros.

3.5.4.68 In addition, there were records of unidentified *Myotis* sp. Bats, unidentified long-eared *Plecotus* sp. bats and unidentified bat species *Chiroptera* sp.

Bat roosts

3.5.4.69 The bat roost surveys identified a total of 12 bat roosts in trees within or adjoining the Mona Onshore Development Area (see Figures 1.2 to 1.12 in Volume 7, Annex 3.9: Bat roost survey technical report of the Environmental Statement). The roosts were:

- Five common pipistrelle, bat day roosts, each of a single bat
- Two soprano pipistrelle bat day roosts, each of a single bat
- Two Natterer's bat day roosts, each of a single bat
- Two noctule bat day roosts, one of a single bat and one of three bats
- One day roost of an unidentified bat species.

Bat foraging and commuting

3.5.4.70 A total of ten bat species were recorded during the remote recording surveys (see Volume 7, Annex 3.10: Bat activity survey technical report of the Environmental Statement), specifically:

- Greater horseshoe bat
- Common pipistrelle
- Leisler's bat Nyctalus leisleri
- Lesser horseshoe bat
- Nathusius' pipistrelle *Pipistrellus nathusii*
- Noctule bat
- Serotine bat
- Soprano pipistrelle
- Unidentified *Myotis sp*.

- Unidentified long-eared bat species.

3.5.4.71 The fixed-point count activity surveys focussed on lesser horseshoe bats due to the proximity of the Mona Onshore Development Area to a known breeding roost at Kinmel Hall, as highlighted during the EWG3 process, as detailed in section 3.3.

Common and soprano pipistrelle

3.5.4.72 Common pipistrelle was by far the most frequent species recorded during the remote recording, making up approximately 53.7% of calls, and recorded at all 14 survey locations. There were some variations in activity between across survey months (April to October) and across survey locations. Elevated levels of activity were recorded particularly at location 1 (towards the northern end of Section 1); 3 and 4 (the centre of Section 7); 7 and 12 (Onshore Substation Sections 8 and 9) 12 and 14 (eastern end of Section 3); and 8 and 10 (east of Sections 8 and 9).

3.5.4.73 Soprano pipistrelle was the next most frequently recorded species with approximately 35.8% of all calls and also recorded at all 14 survey locations. As with common pipistrelle there were seasonal variations as well as variations across locations with the highest activity at locations 3, 4 (the centre of Section 7); 5, 6, 7 and 12 (Onshore Substation Sections 8 and 9), 8, 10 (east of Sections 8 and 9); and, and 14 (eastern end of Section 3).

3.5.4.74 As a whole the Mona Onshore Development Area is used frequently by common pipistrelle and soprano pipistrelles, with activity at all survey locations recorded throughout the survey period. Common pipistrelle and soprano are two the most common and widespread bats in Britain and have shown an increase in population between 1999 and 2016 (BCT, 2017). Common pipistrelle and soprano pipistrelle are also Species of Principal Importance for conservation in Wales under Section 7 of the Environment Wales Act 2016. The small number of individual day roosts of these species within the Mona Onshore Development Area are very unlikely to be significant for the conservation status of their populations within the Mona Onshore Development Area and wider area. In this context the Mona Onshore Development Area has value for common and soprano pipistrelle bats at no more than a local level.

Leisler's bat

3.5.4.75 Leisler's bat was the third most frequently recorded with approximately 3.1% of calls and was also recorded at all 14 survey locations. Activity levels were much lower than those of pipistrelle bats and were recorded most frequently at location 1 (towards the northern end of the Section 1); 3 and 4 (centre of Section 7); and 7, 12 and 13 (Sections 8 and 9); and very low levels elsewhere.

3.5.4.76 Leisler's bat is comparatively uncommon in Britain and although reasonably widespread in England, it is much less common in Wales (BCT, 2017). The levels of Leisler's bat activity where it was most frequently recorded within the Mona Onshore Development Area, indicates regular and frequent use by at least small number of bats on the edge of its main distribution in Britain. In this context the Mona Onshore Development Area is considered to have district value for Leisler's bat.

Myotis spp. bats

3.5.4.77 Myotis bats were the fourth most frequently recorded (with approximately 3% of calls) and records for all locations, particularly 5, 7, 12 and 13 (Onshore Substation Sections 8 and 9); 8 (east of Sections 8 and 9); and 14 (eastern end of Section 3). Myotis bats

use the Mona Onshore Development Area regularly with low levels of activity recorded at these locations.

3.5.4.78 Myotis bats comprise a group of several closely related species. Those recorded during the bat surveys are likely to be more common species as the survey area is outside of the main range of the rarer Bechstein's bat *Myotis bechsteinii*. Of the more common myotis species, three are relatively widespread and common (Daubenton's bat, whiskered bat, and Brandt's bat), while Natterer's bat is widespread but scarce (BCT, 2017). Taking a precautionary approach, it is assumed that a significant proportion of the Myotis calls recorded were likely to have been Natterer's bat, given the finding of Natterer's bats during the roost assessment. Taking this into account the Mona Onshore Development Area has, at most, local value for *Myotis* bats.

Noctule bat

3.5.4.79 Noctule was the fifth most frequent bat with approximately 2.1% of calls and records from all locations but particularly 3, 4 (the centre of Section 7); 5, 6, 7, 12 and 13 5, 6, 7 and 12 (Onshore Substation Sections 8 and 9).

3.5.4.80 Noctule are common and widespread, although current monitoring indicates that this species has declined in Britain since 1999 and particularly since 2010 (BCT, 2017). Despite this decline, given the low levels of activity recorded during the surveys, the Mona Onshore Development Area is of no more than local value for Noctule bat.

Lesser horseshoe bat

3.5.4.81 Lesser horseshoe bat was the sixth most frequently recorded species (approx. 1.3% of calls) and the only other species to be recorded at all locations, with activity especially focussed on locations 1 (north end of Section 2), 5, 7, 12 and 13 (Onshore Substation Sections 8 and 9); and 8 (east of Sections 8 and 9). During the fixed point counts along the hedgerows that connect to Kinmel Hall, lesser horseshoe bat was recorded at one of the six survey locations in July and at three locations in September. Activity levels of lesser horseshoe bat were very low with only 11 bat passes across six locations in June, July, and September in the hedgerows within the Mona Onshore Development Area which connects to the known roost to the north outside of the Mona Onshore Development Area.

3.5.4.82 Lesser horseshoe bats use parts of the Mona Onshore Development Area regularly and at low levels. However, significant peaks in activity were recorded at location 1 in May, at location 5 in September and October and at location 12 in September, indicting these areas may be important seasonally as flight lines, as bats return to winter roosts. Lesser horseshoe bat is rare and confined to Wales and western Britain and Ireland. Despite longer term declines, lesser horseshoe bat has shown signs of population recovery since 1990 (BCT, 2017). In this context the Mona Onshore Development Area is considered to be of national value for lesser horseshoe bats.

Natterer's bat

3.5.4.83 Natterer's bat is a scarce but a widespread species in the UK and also has shown an increasing population trend in Britain between 1999 and 2016 (BCT, 2010 and BCT 2017).

3.5.4.84 The presence of two day roosts of individual Natterers bats and the fact that a proportion of the Myotis calls recorded will be of Natterer's bat, indicated regular and frequent use of features within the Mona Onshore Development Area by at least small

numbers of bats. Therefore, the Mona Onshore Development Area is considered to be of local value for Natterer's bat.

Other bat species

3.5.4.85 The remaining four species (long-eared bats, serotine bats, Nathusius' pipistrelle, greater horseshoe bat) were recorded at low levels throughout the Mona Onshore Development Area. While all of these species are uncommon or rare, and have restricted distribution in Britain, the patterns and low levels of activity recorded during the surveys indicate no more than very occasional and sporadic use of features within the Mona Onshore Development Area by individual bats. Therefore, the Mona Onshore Development Area is considered to be of no more than local value for these species.

Overall bat species assemblage

3.5.4.86 The total number of bat species (10 of the 18 British species) recorded is not significantly high, given the extent of the survey area, and most of the activity was of common and widespread species. However, the significance of the Mona Onshore Development Area for lesser horseshoe bat (national value) and Leisler's bat (district value) along with the overall assemblage of bats across the extent of the Mona Onshore Development Area, means that the Mona Onshore Development Area is considered to be of national value for bats.

Hazel Dormouse

3.5.4.87 Hazel Dormouse is fully protected under the Conservation of Habitats and Species Regulations 2017 and the Wildlife and countryside Act 1981 and are a Species of Principal Importance for conservation in Wales under Section 7 of the Environment Wales Act 2016.

3.5.4.88 There were no records within the Mona Onshore Development Area However, the desk study identified records of Hazel Dormouse from five locations within the 2km study area buffer (See Volume 7, Annex 3.13: Hazel Dormouse survey technical report of the Environmental Statement).

3.5.4.89 Wales is on the edge of the distribution range of Hazel Dormouse in Britain (Peoples Trust for Endangered Species, 2023). Hazel Dormouse are widely distributed in Wales, but individual populations are usually small and often isolated. Hazel Dormouse are infrequently recorded in North Wales with few known populations, which are scattered (Cygnor Gwynedd, 2004) The species is more abundant in South Wales.

3.5.4.90 The nest tube survey found Hazel Dormouse in two locations, one close to the centre of the Mona Onshore Development Area and a second location at the eastern end of the Mona Onshore Development Area close to the Onshore Substation (see Figure 1.3 of Volume 7, Annex 3.13: Hazel Dormouse survey technical report of the Environmental Statement). The surveys found Hazel Dormouse in hedgerows with connectivity to nearby blocks of woodland with the 2km buffer but outside of the Mona Onshore Development Area. It is likely these records reflect two different Hazel Dormouse populations centred on the woodlands with the hedgerows providing additional habitat and dispersal routes.

3.5.4.91 In this context the presence of Hazel Dormouse in the Mona Onshore Development Area is of district value.

Otter

3.5.4.92 Otter is fully protected under the Conservation of Habitats and Species Regulations 2017 and the Wildlife and countryside Act 1981 and is a Species of Principal Importance for conservation in Wales under Section 7 of the Environment Wales Act 2016.

3.5.4.93 There were 19 historical records of otter from between 2011 and 2022 within the otter study area (i.e. within 2 km of the Mona Onshore Development Area). No otter records were recorded within the Mona Onshore Development Area.

3.5.4.94 The onshore ecology desk study confirmed that otter are distributed across Wales, but the population is in decline. Otter were present at 90% of the 1073 sites surveyed by Natural Resources Wales in 2010 but the occupancy had dropped to 70% in 2015 to 2018, indicating a decline of approximate 20% (Natural Resources Wales, 2021).

3.5.4.95 The otter field survey covered four watercourses within the Mona Onshore Development Area assessed as having potential suitability for otter (See Volume 7, Annex, 3.11: Otter survey technical report of the Environmental Statement). The survey recorded field signs of otter in two watercourses: a potential holt on the edge of an unnamed watercourse on the edge of Section 3; and a second potential holt in an unnamed watercourse outside of the Mona Onshore Development Area east of Sections 8 and 9 (see Figure 1.2 of Volume 7, Annex 3.11: Otter survey technical report of the Environmental Statement).

3.5.4.96 Given their high level of legal protection and declining populations, the presence of two holts indicating two otter territories means that the Mona Onshore Development Area is considered to be of district value for otter.

Water vole

3.5.4.97 Water vole is fully protected under the Wildlife and countryside Act 1981 and is a Species of Principal Importance for conservation in Wales under Section 7 of the Environment Wales Act 2016.

3.5.4.98 Water vole is the fastest declining mammal across the UK and populations in Wales have declined by 89% since 1995 (DataMapWales, 2023). Isolated patches of potential habitat are present across Wales. The north-west of Wales and the northern coast are recognised as having a high likelihood of being suitable for the species.

3.5.4.99 The desk study identified four records of Water vole from between 2012 and 2019 within 2 km of the Mona Onshore Development Area (the Water vole study area). No Water vole records were recorded within the Mona Onshore Development Area.

3.5.4.100 The Water vole field survey covered four watercourses within the Mona Onshore Development Area assessed as having potential suitability for Water vole (See Volume 7, Annex, 3.8: Water vole survey technical report of the Environmental statement). Field signs of Water vole were found in two locations: possible Water vole burrows on the edge of a watercourse adjacent to Section 9 (the access route into the Onshore Substation location); and a latrine beside a watercourse outside the Mona Onshore Development Area to the east of Section 9 (see Figure 1.2 and 1.3 of Volume 7, Annex, 3.8: Water vole survey technical report of the Environmental Statement).

3.5.4.101 The presence of field signs in two unconnected watercourses indicates at least two Water vole colonies within or close to the Mona Onshore Development Area. Given their recent steep population declines Water vole of high conservation concern and the Mona Onshore Development Area is considered to be of district value for Water vole.

Badger

3.5.4.102 Badger are protected from cruelty and disturbance under the Protection of Badgers Act 1992.

3.5.4.103 The desk study identified 88 records of badger within 2 km of the Mona Onshore Development Area in the last 10 years. Badgers are common and widespread through the UK and use a range of habitats even being found in towns gardens (Wildlife Trusts, 2023)

3.5.4.104 Extensive field signs of badger were found through the Mona Onshore Development Area (see Figures 1.2 to 1.12 of Volume 7, Annex 2.12: Badger survey technical report of the Environmental Statement).

3.5.4.105 Given their widespread distribution and low conservation status in the UK, badger would be expected to be present in most suitable habitats within the Mona Onshore Development Area and the wider area. However, given the size of the Mona Onshore Development Area and extent of badger activity, the Mona Onshore Development Area has district value for badger.

Reptiles

3.5.4.106 All native species or reptiles are fully protected under the Wildlife and Countryside Act 1981.

3.5.4.107 The desk study found 24 records of reptiles within 2 km of the Mona Onshore Development Area within the last 10 years but no records within the Mona Onshore Development Area (see Figure 2.30 to Figure 2.32 of Volume 7, Annex 3.1: Onshore ecology desk study technical report of the Environmental Statement).

3.5.4.108 Three reptile species: slow worm *Anguis fragilis*, grass snake *Natrix helvetica*, and common lizard *Zootoca vivipara*, were recorded within the Mona Onshore Development Area during reptile surveys and from incidental observations during other surveys (see Figure 1.3 of Volume 7, Annex 3.7: Reptile survey technical report of the Environmental Statement).

3.5.4.109 Slow worm was recorded in low numbers (indicating a small population) on the edge of, and outside of, Section 8. The survey findings included a sub-adult indicting a possible breeding population. Slow worm typically have a small range and results in indicate a likely population located close to the area where slow worm were recorded.

3.5.4.110 Grass snakes were recorded in low numbers (indicating a small population) within Section 9 (the northern access route into the Onshore Substation). The presence of a juvenile indicates a breeding population. Grass snake are comparatively wide ranging and may travel several hundred meters or more to find food or suitable egg laying sties. The grass snakes were found adjacent to a small watercourse and are likely to range along the watercourse and areas of longer grassland in and around Section 9.

Common lizard

3.5.4.111 All three reptile species recorded are quite common and widespread, with no evidence for significant population decline in Wales or Britain (Foster, J., Driver, D., Ward, R. & Wilkinson, J. 2021). However, all three species are listed as Species or Principal Importance in Wales under Section 7 of the Environment (Wales) Act 2016 and face ongoing threats from habitat loss and fragmentation.

3.5.4.112 The assemblage of reptiles within the Mona Onshore Development Area is considered to be of district value.

Great Crested Newt

3.5.4.113 GCN have been recorded throughout eastern Wales but very infrequently in central or western Wales (DataMapWales, 2023). North-east Wales is recognised as being particularly rich in the species (Cofnod, 2023). Previous studies of GCN have assessed the metapopulation within the St. Asaph area as being of national importance (Haysom *et al*. 2018).

3.5.4.114 The GCN Surveys, and onshore ecology desk study of survey results for other nearby developments (Awel y Môr Offshore Wind Farm Project), St. Asaph Business Park, and St. Asaph Solar Farm), confirmed the presence of GCN in 13 ponds within the Mona Onshore Development Area and 2km buffer (See Volume 7, Annex 3.3: Great crested newt survey technical report of the Environmental Statement).

3.5.4.115 Given the number of ponds within the buffer zone, the inaccessibility of some ponds for survey and the recognised importance of the St Asaph meta populations in GCN ecology, a precautionary approach has been agreed in relation to the assessment of potential GCN presence (see Table 3.7). Therefore, the assessment has concluded the presence of a large GCN population of national importance.

3.5.4.116 While GCN is protected under European legislation, the species in this location is on the edge of a wider regional distribution in Denbighshire and Cheshire where GCN is widespread, including a large population within the Halkyn Mountain SAC. In this context, GCN is considered to be of national importance within the Mona Onshore Development Area (Haysom *et al.* 2018).

Fish and eels

3.5.4.117 European eel *Anguilla anguilla* is fully protected under the Habitats and Species Regulations 2017 and the Wildlife and countryside Act 1981 and is a Species of Principal Importance for conservation in Wales under Section 7 of the Environment Wales Act 2016.

3.5.4.118 The onshore ecology desk study found no records of European eel or other legally protected fish species within 2 km of the Mona Development Area within the last 10 years.

3.5.4.119 The field survey found European Eel in two of the four watercourses assessed as being suitable to support fish/eels: in the watercourse flowing through Section 2 at Nant Fawr, and in a watercourse immediately outside of the Mona Onshore Development Area to the west of this location (see Figure 1.2 of Volume 7, Annex 3.15: Fish and eel survey technical report of the Environmental Statement).

3.5.4.120 Given the critically endangered status or European Eel and its high level of legal protection, the Mona Onshore Development Area is considered to be of district value for European Eel.

Terrestrial invertebrates

3.5.4.121 The onshore ecology desk study found records of 19 notable terrestrial invertebrates within 2 km of the Mona Onshore Development Area in the last 10 years, comprising 16 Species of Principal Importance, 2 nationally scarce species and one of conservation concern for which there is insufficient population data to accurately assess status (see Figures 2.16 to 2.23 in Volume 7, Annex 3.1: Onshore ecology desk study technical report of the Environmental Statement).

3.5.4.122 The field survey included an initial scoping survey of 18 sites across the Mona Onshore Development Area covering habitat identified as potentially having value for invertebrates on the Phase 1 Habitat Survey (see Volume 7, Annex 3.2: Phase 1 habitat survey technical report of the Environmental Statement). Of the 18 sites, seven

were taken forward for more detailed assessment following. All seven sites taken forward for detailed assessment were located within the Mona Onshore Development Area.

3.5.4.123 The survey of these seven sites recorded 67 species of terrestrial invertebrate including 10 species of conservation concern, of which seven are Species of Principal Importance in Wales, 1 vulnerable species and one critically endangered. Given the presence of Species of Principal Importance in Wales, it is considered that the terrestrial invertebrate assemblage is of district value.

Aquatic invertebrates

3.5.4.124 The desk study found no recent nearby records of protected or notable aquatic macro-invertebrates (see Volume 7, Annex 3.1: Onshore ecology desk study technical report of the Environmental Statement).

3.5.4.125 The field survey included a rapid assessment of 20 water bodies of which 14 were assessed as having low suitability to support protected/notable species aquatic Invertebrates. Six were taken forward to a more detailed assessment.

3.5.4.126 Four of the ponds subject to detailed survey had diverse invertebrate assemblages and were assessed as having moderate biological water quality, while two were assessed as having poor or very poor biological water quality. The four ponds with moderate biological water quality were located just outside of the Mona Onshore Development Area, adjacent to Section 9. The results are show on Figure 1.2 of Volume 7, Annex 3.6: Aquatic invertebrates survey technical report of the Environmental Statement.

3.5.4.127 With only four waterbodies (ponds) of moderate biological water quality the Mona Onshore Development Area is considered to be of no more than local value for aquatic invertebrates.

3.5.4.128 The summary of IEFs and the justification for taking them forward to assessment is detailed in Table 3.17.

Table 3.17: Summary of Important Ecological Features.

Feature	Value	Distance from the Mona Onshore Development Area (km)	IEFs for this Assessment	Justification	Further Information
European Designated Sites					
Coedwigoedd Dyffryn Elwy/Elwy Valley Woods SAC	International	0.81	No	Site(s) of international conservation importance. These internationally designated sites do not have mobile species, such as bats, which could use the Mona Onshore Development	N/A
Coedwigoedd Penrhyn Creuddyn/Creuddyn Peninsula Woods SAC		9.48			
Llwyn SAC		9.78			
Y Fenai a Bae Conwy/Menai Strait and Conwy Bay		10.58			

Feature	Value	Distance from the Mona Onshore Development Area (km)	IEFs for this Assessment	Justification	Further Information
SAC				Area and, as such they are scoped out of further assessment.	
Aber Dyfrdwy/Dee Estuary SAC/SPA/Ramsar		11.05			
Mynydd Helygain/Halkyn Mountain SAC		13.54			
Pen y Gogarth/Great Orme's Head SAC		14.15			
Coedwigoedd Dyffryn Alun/Alyn Valley Woods SAC		17.43			
Mwyngloddiau Fforest Gwydir/Gwydyr Forest Mines SAC	International	18.82	No	Site of international conservation importance. Although Lesser Horseshoe bats are present as a qualifying feature (but not a reason for site selection), it is highly unlikely that the populations from sites within and adjacent to the Mona Onshore Development Area will be functionally linked to these sites. Lesser Horseshoe bats have small foraging ranges. A study on the Welsh border found that the maximum distance a single bat travelled was 4.2km but with most bats staying within 1km of the breeding roost (Bontadina *et al* 2002).	
Eryri/Snowdonia SAC		18.75		Site of international	

Feature	Value	Distance from the Mona Onshore Development Area (km)	IEFs for this Assessment	Justification	Further Information
				conservation importance. The internationally designated sites do not have mobile species, such as bats, which could use the Mona Onshore Development Area and, as such they are scoped out of further assessment	
National Statutory Designated Sites					
Llanddulas Limestone and Gwrych Castle Wood SSSI	National	0	Yes	Site of national conservation importance located partly with the Mona Onshore Development Area.	Volume 7, Annex 3.1: Onshore ecology desk study technical report of the Environmental Statement.
Traeth Pensarn SSSI	National	0	Yes	Site of national conservation importance located close to the Mona Onshore Development Area and with potential for indirect effects.	
Coedydd ac Ogofau Elwy a Meichion SSSI	National	0.81	Yes	Site of national conservation importance and supporting roosts of bats (including lesser horseshoe bat) which could also use habitats within the Mona Onshore Development Area.	Volume 7, Annex 3.1: Onshore ecology desk study technical report of the Environmental Statement.
Coed y Gopa SSSI	National	0.82	Yes	Site of national conservation importance and supporting roosts of bats (including	

Feature	Value	Distance from the Mona Onshore Development Area (km)	IEFs for this Assessment	Justification	Further Information
				lesser horseshoe bat) which could also use habitats within the Mona Onshore Development Area.	
Mynydd Marian SSSI	National	2.48	No	The SSSI is too far away for direct effects and does not support mobile species for which there is suitable habitat within the Mona Onshore Development Area.	
Coedydd Derw Elwy SSSI	National	3.92	No	The SSSI is too far away for direct effects and does not support mobile species for which there is suitable habitat within the Mona Onshore Development Area.	
Non- statutory Designated Sites					
76 sites, 2 within the site and 71 within 2 km.	County	0.0 to 1.99	Yes	Sites are of county conservation importance	Volume 7, Annex 3.1: Onshore ecology desk study technical report of the Environmental Statement
Habitats or Principal Importance					
Ancient Woodland	National	0.0	Yes	Significant extent within the Mona Onshore Development Area.	Volume 7, Annex 3.1: Onshore ecology desk study technical report of the Environmental Statement.
Lowland Mixed Deciduous Woodland	Local	0.0km	No	Presence within the Mona Onshore Development Area. Habitat of Principal Importance	

Feature	Value	Distance from the Mona Onshore Development Area (km)	IEFs for this Assessment	Justification	Further Information
				demonstrates conservation interest/concern.	
Traditional Orchard	Local	0.0km	No	Habitat of Principal Importance demonstrates conservation interest/concern.	
Hedgerows	County	0.0km	Yes	Extensive presence through the Mona Onshore Development Area including Ecologically Important hedgerows (Under the Hedgerow Regulations 1997).	
Parkland	Local	0.0km	Yes	Presence within the Mona Onshore Development Area. Habitat of Principal Importance demonstrates conservation interest/concern.	Volume 7, Annex 3.1: Onshore ecology desk study technical report of the Environmental Statement.
Lowland Calcareous Grassland	Local	0.0km	Yes	Presence within the Mona Onshore Development Area. Habitat of Principal Importance demonstrates conservation interest/concern.	
Open Mosaic Habitat on Previously Developed Land	Local	0.0km	No	Habitat of Principal Importance demonstrates conservation interest/concern.	
Grazing Marsh	Local	0.0km	No	Habitat of Principal	

Feature	Value	Distance from the Mona Onshore Development Area (km)	IEFs for this Assessment	Justification	Further Information
				Importance demonstrates conservation interest/concern.	
Lowland Fens and Reedbeds	Local	0.0km	No	Habitat of Principal Importance demonstrates conservation interest/concern.	
Lowland Heath	Local	0.0km	No	Habitat of Principal Importance demonstrates conservation interest/concern.	Volume 7, Annex 3.1: Onshore ecology desk study technical report of the Environmental Statement.
Rivers	County	0.0km	Yes	Significant presence within the Mona Onshore Development Area. Habitat of Principal Importance demonstrates conservation interest/concern.	Volume 7, Annex 3.1: Onshore ecology desk study technical report and Annex 3.2: Extended phase 1 habitat survey technical report of the Environmental Statement.
Ponds	District	0.0km	Yes	Significant presence within the Mona Onshore Development Area. Habitat of Principal Importance demonstrates conservation interest/concern.	
Other Habitats					
Improved Grassland	Negligible	N/A	No	Very common habitat of very low ecological value.	Volume 7, Annex 3.1: Onshore ecology desk study technical report and Annex 3.2: Extended phase 1 habitat survey
Arable	Negligible	N/A	No	Very common habitat of very low ecological value.	
Semi-improved	Local	N/A	No	Moderate	

Feature	Value	Distance from the Mona Onshore Development Area (km)	IEFs for this Assessment	Justification	Further Information
Neutral Grassland				ecological value habitat uncommon within the Mona Onshore Development Area.	technical report of the Environmental Statement.
Poor Semi-improved Grassland	Negligible	N/A	No	Very common habitat of very low ecological value.	Volume 7, Annex 3.1: Onshore ecology desk study technical report and Annex 3.2: Extended phase 1 habitat survey technical report of the Environmental Statement.
Semi-natural Broadleaved Woodland	See Lowland Mixed Deciduous Woodland Habitat of Principal Importance.	N/A	No	See Lowland Mixed Deciduous Woodland Habitat of Principal Importance.	
Semi-improved Calcareous Grassland	See Lowland Calcareous Grassland Habitat of Principal Importance.	N/A	Yes.	See Lowland Calcareous Grassland Habitat of Principal Importance.	
Semi-improved Acid Grassland	Local	N/A	No	Relatively uncommon habitat locally and presence within the Mona Onshore Development Area.	
Semi-natural Mixed Woodland	See Ancient Woodland Habitat of Principal Importance	N/A	No	See Ancient Woodland Habitat of Principal Importance.	
Vegetated Coastal Shingle	National	N/A	Yes	Key habitat of interest within the Traeth Pensarn SSSI.	
Tall ruderal, dense continuous scrub, marshy grassland, amenity grassland, scattered scrub, scattered and continuous bracken tall ruderal, bare ground, and	Negligible	N/A	No	Low ecological value habitats with very limited extent within the Mona Onshore Development Area.	

Feature	Value	Distance from the Mona Onshore Development Area (km)	IEFs for this Assessment	Justification	Further Information
hardstanding					
Fences, walls dry ditches, earth banks	Negligible	N/A	No	Low ecological value habitats with very limited extent within the Mona Onshore Development Area.	Volume 7, Annex 3.1: Onshore ecology desk study technical report and Annex 3.2: Extended phase 1 habitat survey technical report of the Environmental Statement.
Species					
Common and soprano pipistrelle	Local	N/A	Yes	Common and widespread species but of conservation concern and high legal protection.	Volume 7, Annex 3.9: Bat roost survey technical report and Annex 3.10: Bat activity survey technical report of the Environmental Statement.
Leisler's bat	District	N/A	Yes	Uncommon species in Wales and of conservation concern with high legal protection.	
Myotis bats	Local	N/A	Yes	Common and widespread species but of conservation concern and high legal protection.	
Noctule bat	District	N/A	Yes	Scarce species in Wales and of conservation concern with high legal protection.	
Lesser horseshoe bat	National	N/A	Yes	Nationally rare species of restricted distribution, high conservation concern and high legal protection.	
Natterer's bat	Local	N/A	Yes	Common and widespread species but of conservation	Volume 7, Annex 3.9: Bat roost survey technical report

Feature	Value	Distance from the Mona Onshore Development Area (km)	IEFs for this Assessment	Justification	Further Information
				concern and high legal protection.	and Annex 3.10: Bat activity survey technical report of the Environmental Statement.
Long-eared bats, serotine bats, Nathusius' pipistrelle, and greater horseshoe bat	Local	N/A	Yes	Species of conservation concern and high legal protection but very low activity within the Mona Onshore Development Area.	
Bat Assemblage	National	N/A	Yes	Moderate assemblage of species of conservation concern over a large area and including rare, uncommon, and scarce species for the region and Wales.	
Hazel Dormouse	District	N/A	Yes	Species of high conservation concern and high legal protection with widespread but uncommon distribution in the country/region.	Volume 7, Annex 3.13: Hazel Dormouse survey technical report of the Environmental Statement.
Otter	District	N/A	Yes	Species of high conservation concern and high legal protection with widespread but uncommon distribution in the country/region.	Volume 7, Annex 3.11: Otter survey technical report of the Environmental Statement.
Water vole	District	N/A	Yes	Species of high conservation concern and high legal protection with widespread but uncommon distribution in the country/region.	Volume 7, Annex 3.8: Water vole survey technical report of the Environmental Statement.
Badger	District	N/A	Yes	Species of low conservation concern but extensive	Volume 7, Annex 3.12: Badger survey technical report

Feature	Value	Distance from the Mona Onshore Development Area (km)	IEFs for this Assessment	Justification	Further Information
				presence across the large Mona Onshore Development Area.	of the Environmental Statement.
Common Lizard, Slow Worm, and Grass Snake.	District	N/A	Yes	Species of conservation concern and legal protection likely to be uncommon in most of the habitats within the Mona Onshore Development Area.	Volume 7, Annex 3.7: Reptile survey technical report of the Environmental Statement.
Great Crested Newt	County	N/A	Yes	Species of high conservation concern and high legal protection significant presence within the Mona Onshore Development Area and of potential importance for county meta populations.	Volume 7, Annex 3.3: Great Crested Newt survey technical report of the Environmental Statement.
Fish and Eels	District	N/A	Yes	Limited presence within the Mona Onshore Development Area but critically endangered and high level of legal protection.	Volume 7, Annex 3.15: National Vegetation Classification and Invasive Non-Native Species Survey Technical Report of the Environmental Statement.
Terrestrial Invertebrates	County	N/A	Yes	Limited assemblage of species in sub-optimal habitats within the Mona Onshore Development Area.	Volume 7, Annex 3.5: Terrestrial invertebrate survey technical report of the Environmental Statement.
Aquatic	Local	N/A	Yes	Limited	Volume 7,

Feature	Value	Distance from the Mona Onshore Development Area (km)	IEFs for this Assessment	Justification	Further Information
Invertebrates				assemblage of species in sub-optimal habitats within the Mona Onshore Development Area.	Annex 3.6: Aquatic invertebrates survey technical report of the Environmental Statement.

3.5.5 Future baseline scenario

3.5.5.1 The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 requires that "an outline of the likely evolution [of the baseline environment] without implementation of the development as far as natural changes from the baseline scenario can be assessed with reasonable effort on the basis of the availability of environmental information and scientific knowledge" is included within the Environmental Statement. In the event that Mona Offshore Wind Project does not come forward, an assessment of the future baseline conditions has been conducted and is described within this section.

3.5.6 Changes in management practices

3.5.6.1 The majority of the Mona Onshore Development Area comprises intensively managed agricultural habitat of arable fields, improved grassland and regularly cut hedgerows. Assuming existing management continues, it is very unlikely that there would be significant changes to the baseline conditions as a result of land management in the short to medium term.

3.5.6.2 A small extent of lowland calcareous grassland (semi-improved calcareous grassland) identified in the NVC survey is currently sheep grazed and would not be expected to degrade significantly in the short to medium term.

3.5.6.3 Priority habitats within the Mona Onshore Development Area are ponds, ordinary water courses, veteran trees, and ancient woodland. Changes in management practices have the potential to significantly affect these habitats adversely or beneficially. In the absence of any further information on current or proposed future management of these habitats, or any future commitments to management, the influence of management on future baseline cannot be more accurately assessed.

3.5.6.4 Designated sites within the Mona Onshore Development Area, and which contain Priority Habitats (Lowland Mixed deciduous Woodland in Llanddulas Limestone and Gwrych Castle Wood SSSI and vegetated costal shingle in Traeth Pensarn SSSI) will be subject to management, the knowledge of which is outside the scope of this assessment.

3.5.6.5 Designated sites outside of the Mona Onshore Development Area, but which are still classified as IEFs, will also be subject to management to varying degrees depending on their ownership and designation. The knowledge of this is outside the scope of this assessment.

3.5.6.6 Changes in management practices have the potential to affect the species using the habitat adversely or beneficially. This includes IEFs identified in this chapter, specifically, bats, Hazel Dormouse, otter, badger, common lizard, slow worm, grass snake GCN, fish and eels and terrestrial and aquatic invertebrates. In the absence of information on any proposed changes to management practices it is not possible quantify future baseline changes for these IEFs.

3.5.6.7 Aside from land management practices within the Mona Onshore Development Area, other external factors may influence the future baseline. These include changes to land use or management of off-site land resulting in knock on effects to animal species which will utilise the Mona Onshore Development Area. Given that much of the surrounding land use is also intensively manged agricultural land, it is more likely that any changes to management practices would be beneficial rather than adverse for many animal species.

3.5.6.8 Nearby future development could impact on animal species using the Mona Onshore Development Area, although current UK wildlife legislation and planning policy should ensure there is no adverse effect. Potential cumulative impacts are considered in section 3.12 of this chapter.

3.5.7 Climate change

3.5.7.1 There is the potential for changes in the baseline conditions in the medium to long term as a result of climate change and in the long term, in the absence of significant changes in management practices or land use (which cannot be foreseen) climate change will potentially be the greatest influencing factor on future baseline conditions in the long term.

3.5.7.2 The UK Climate Change Risk Assessment for Wales (HM Government, 2012) identified the main potential risks to the natural environment as a result of climate change. Those risks relevant to the Mona Onshore Development Area are:

- Reduction in soil moisture and lower river flows, and an increase in the frequency and magnitude of droughts
- Low water levels and reduced river flows leading to increased concentration of pollutants from agriculture, sewage and air pollution damaging freshwater habitats and other ecosystem services
- Soil moisture deficits and erosion impacting biodiversity and soil carbon and increasing risk of wildfires
- Increased prevalence of invasive non-native species, pests and pathogens impacting on animal, plant, and biodiversity
- Loss of climate space, with species unable to track climate change
- Changes in the timing of seasonal events.

3.5.7.3 The UK Climate Change Risk Assessment 2017 (HM Government, 2017), confirmed that the following changes had already been recorded due to climate change:

- Changes to the distribution of UK biodiversity
- Changes to the composition of terrestrial, coastal, and freshwater ecosystems
- Northward shift in species distributions
- Changes in the timings of seasonal events.

3.5.7.4 While there are potential effects of climate change on the future ecological baseline, it is difficult to accurately predict and quantify the potential impacts of climate change on ecological systems. The complexity of ecosystems and the myriad interactions between species and physical environmental characteristics present a challenge to modelling these systems.

3.5.7.5 In the context of the Mona Onshore Development Area, anthropogenic effects on biodiversity (i.e. management and land use) are likely to be more significant to the future baseline conditions.

3.5.7.6 Morecroft & Speakman (2015) provide qualitative assessments of observed biodiversity changes, and of likely biodiversity changes due to climate change. Observations and predictions for habitats relevant to the Mona Onshore Development Area are described below. Where a habitat type or species is mentioned, consideration has been given to all IEFs for which that habitat/species is relevant.

Grassland

3.5.7.7 Increasing temperatures have promoted earlier spring greening of grasslands and a longer growing season which may be beneficial for plant species and their associated invertebrate assemblages.

3.5.7.8 Decreased or less reliable summer rainfall could result in less plant biomass and changes in plant community species composition favouring species adapted to warmer, drier conditions. This could in turn alter the abundance and species composition of the associated invertebrate assemblage.

3.5.7.9 Many grasslands are likely to remain similar in character with a temperature rise of a few degrees Celsius unless those grassland are on the edge of their climatic range.

Woodland and hedgerows

3.5.7.10 Tree death following drought has been recorded at long-term monitoring sites. Those species most sensitive to this effect are beech *Fagus sylvatica*, birch *Betula* sp. and sycamore *Acer pseudoplatanus*. Such effects can lead to major changes in the composition and structure of woodland. Some tree species also show reduced growth rates during dry summers.

3.5.7.11 Changes in woodland composition are possible as a result of decreased rainfall and longer, warmer summers. The different responses of canopy and ground flora plant species may also lead to changes in woodland composition.

3.5.7.12 Additional effects may occur due to changes in pest and disease ranges and prevalence or the introduction of new pests.

Mammals

3.5.7.13 Juveniles are often more vulnerable than adults to extreme weather events (e.g. spring drought, flooding and cold winters). Therefore, there can be knock-on impacts on mammal populations. Persistent heavy rain can decrease flying insect prey availability for bats.

3.5.7.14 Higher summer rainfall has been associated with greater insect abundance, increasing survival rate of some bats species although the opposite effect is seen with drier springs and summers. Warmer winters resulting in reduced hibernation periods can reduce body condition, breeding success and survival rates.

3.5.7.15 In relation to water voles and otter, drier summers could result in lower flows in on-site watercourses, reducing the extent and depth of open water and potentially reducing the extent of suitable habitat. This could reduce the on-site populations or change their distribution within the channel.

3.5.7.16 Conversely more extreme winter precipitation could affect the flow characteristics of on-site watercourses. Any consequent increase in frequency or severity of flooding would be create additional risks of young animals in burrows and holts if they are flooded.

Reptiles

3.5.7.17 Modelling indicates that some reptiles could expand their range northwards provided there is suitable habitat connectivity.

Amphibians

3.5.7.18 Increased flooding and drought may affect the seasonality of ponds which, in turn, could affect how amphibians use ponds. Changes in the timing of lifecycle events have been observed in common frog. Modelling indicates some amphibians may lose suitable climatic conditions in England although their range might increase northwards into Scotland.

Fish and Eels

3.5.7.19 Indirect climate changes leading to greater nitrogen deposition and the potential for increased eutrophication of rivers with potential adverse impacts on fish populations.

Invertebrates

3.5.7.20 Climate warming has resulted in northward range shifts of many southern and common British invertebrates and changes in butterfly communities.

3.5.7.21 The impact of changes in temperature and precipitation varies between butterfly species, with the negative effects of warm wet winters greatest in species that overwinter as caterpillars or pupae.

3.5.7.22 Areas of climate suitability might increase for some species although species will vary in their capacity to benefit, especially in fragmented landscapes. Some invertebrate species may respond with behavioural or evolutionary adaptation to changing conditions. More extreme rainfall patterns are likely to affect flight periods and food availability for many insects.

3.5.8 Data limitations

3.5.8.1 All seasonally dependent surveys were undertaken at optimal times of the year and under suitable weather conditions. Therefore, survey timing did not represent a survey limitation for the assessment.

3.5.8.2 Some of the NVC surveys were undertaken towards the end of the survey season when grassland fields had recently been cut. This means some grassland species may not have been recorded. This occurred in more agriculturally improved grassland of relatively low ecological value, and it considered unlikely that the survey information missed species which would have changed the habitat classification (see Volume 7,

Annex 3.14: National vegetation classification and invasive non-native species survey technical report of the Environmental Statement).

3.5.8.3 Terrestrial invertebrate surveys commenced in August 2023. As a result, early spring, and early summer surveys to record emerging species was not completed. The species recorded during the surveys are, however, based on and reflect the habitat assemblages and species present at time of survey. This technical report therefore accurately reflects the invertebrate species and assemblages present at the time of survey.

3.5.8.4 The weather conditions during the site-specific surveys were initially sub-optimal due to intermittent rain but improved throughout duration of the survey. To prevent limitations to the results, surveys were paused in heavy rain and were only fully completed when sub-optimal conditions had improved.

3.5.8.5 The GCN surveys of ponds P76, P111 and P121 were subject to a single survey rather than the four recommend. This was due to time constraints, poor weather conditions and land access restrictions. Surveys at P076 and P111 commenced towards the end of the acceptable GCN survey period in June 2023. Full presence or likely absence surveys using traditional survey methods will be undertaken prior to the commencement of construction. Requirements for pre-commencement surveys are set out in the Outline LEMP (Document Reference J22).

3.5.8.6 In relation to bat activity surveys, a minimum of five nights of recording was not always possible during each survey session, and in some locations and months more than five nights of data was recorded. Surveys that did not last the minimum of five nights were due to changes in weather and recorders failing. The analysis of the results is based on an average number of identifications per night, which accounts for these variations. Overall, the limitations are not considered to be a significant limitation, and the survey results obtained are considered to provide a good representation of bat activity levels (see Volume 7, Annex 3.10: Bat activity survey technical report of the Environmental Statement).

3.5.8.7 Some areas were not physically accessible due to physical barriers (e.g. very dense vegetation, security fencing) or where access permission was not granted. Specifically, this related to the following surveys:

- Phase 1 Habitat Survey (see Volume 7, Annex 3.2: Phase 1 habitat survey technical report of the Environmental Statement)
- NVC and NNIS surveys (see Volume 7, Annex 3.14: National vegetation classification and invasive non-native species survey technical report of the Environmental Statement)
- GCN surveys (see Volume 7, Annex 3.3: Great Crested newt survey technical report of the Environmental Statement)
- Hedgerow surveys (see Volume 7, Annex 3.4: Hedgerow survey technical report of the Environmental Statement)
- Terrestrial invertebrate surveys (see Volume 7, Annex 3.5: Hedgerow survey technical report of the Environmental Statement)
- Bat tree inspections (see Volume 7, Annex 3.9: Bat roost survey technical report of the Environmental Statement)
- Fish and eel surveys (see Volume 7, Annex 3.15: Fish and eel survey technical report of the Environmental Statement)

- Otter surveys (see Volume 7, Annex 3.11: Otter survey technical report of the Environmental Statement)
- Water vole surveys (see Volume 7, Annex 3.8: Water vole survey technical report of the Environmental Statement)
- Badger surveys (see Volume 7, Annex 3.12: Badger survey technical report of the Environmental Statement)
- Reptile surveys, (see Volume 7, Annex 3.7: Reptile survey technical report of the Environmental Statement)
- Aquatic invertebrates (see Volume 7, Annex 3.6: Aquatic invertebrates survey technical report of the Environmental Statement).

3.5.8.8 Where this was the case, for some surveys presence of the target species was assumed in inaccessible areas (e.g. GCN, reptiles, fish, and eels).

3.5.8.9 For the hedgerow survey, all inaccessible hedgerows were assumed to be ecologically important under the Hedgerow Regulations 1997, to ensure that impacts and any mitigation on hedgerows were assumed on a precautionary basis.

3.5.8.10 Where it was practical inaccessible areas were surveyed from adjacent land using binoculars where necessary (Phase 1 Habitat survey, otter, Water vole).

3.5.8.11 In addition, pre-commencement surveys will be undertaken of all inaccessible areas to ensure the baseline information is up to date, and that any potential ecological constraints and effects are identified. The requirements for pre-commencement surveys are set out in the Outline LEMP (Document Reference J22).

3.5.8.12 It should also be noted that all surveys have inherent limitations in their design and that all ecological surveys can only capture information from a relatively short period of time in what are complex and dynamic ecosystems.

3.6 Impact assessment methodology

3.6.1 Overview

3.6.1.1 The Onshore Ecology impact assessment has followed the methodology set out in Volume 1, Chapter 5: EIA methodology of the Environmental Statement. Specific to the onshore ecology impact assessment, the following guidance documents have also been considered:

- Offshore Wind Marine Environmental Assessments: Best Practice Advice for Evidence and Data Standards. Phase I: Expectations for pre-application baseline data for designated nature conservation and landscape receptors to support offshore wind applications (Natural England, 2022)
- Chartered Institute of Ecology and Environmental Management (CIEEM) guidelines on ecological impact assessment (CIEEM, 2018)

3.6.1.2 In addition, the Onshore Ecology impact assessment has considered the legislative framework as defined by:

- The Conservation of Habitats and Species Regulations 2017
- The Wildlife and Countryside Act 1981
- Section 7 of the Environment (Wales) Act 2016.

3.6.2 Impact assessment criteria

3.6.2.1 Determining the significance of effects is a two-stage process that involves defining the magnitude of the impacts and the sensitivity of the receptors. This section describes the criteria applied in this chapter to assign values to the magnitude of potential impacts and the sensitivity of the receptors. The terms used to define magnitude and sensitivity are based on those which are described in further detail in Volume 1, Chapter 5: EIA methodology of the Environmental Statement.

3.6.2.2 The significance of an effect is determined based on the sensitivity of a receptor and the magnitude of an impact. This section describes the criteria applied in this chapter to characterise the sensitivity of receptors and magnitude of potential impacts. The terms used to define magnitude and sensitivity are based on and have been adapted from those used in the Design Manual for Roads and Bridges (DMRB) methodology (Highways England *et al.*, 2020).

3.6.2.3 This assessment process also takes into account the best practice guidelines for ecological impact assessment produced by the Chartered Institute of Ecology and Environmental Management (CIEEM, 2018).

Magnitude of Impacts

3.6.2.4 Impacts may be described in terms of changes to the structure or function of an ecological resource and are characterised according to a number of parameters where these are relevant. These parameters include:

- Beneficial or adverse – impacts may be either, depending on the nature of the impact
- Extent - the geographical range over which the impact occurs
- Magnitude – the size of the impact in terms of amount of a feature affected
- Duration and timing – when the impact would occur and how long it would last
- Frequency – whether the impact would be a single event or multiple events
- Reversibility – the impact may be permanent, or may naturally reverse without mitigation, or may be reversible with appropriate mitigation.

3.6.2.5 The criteria for how magnitudes of impacts have been described in this assessment is detailed in Table 3.19 below.

Table 3.18: Impact Magnitude Criteria.

Magnitude of impact	Definition
High	Loss of resource and/or quality and integrity of resource; severe damage to key characteristics, features or elements (Adverse)
	Large scale or major improvement or resource quality; extensive restoration or enhancement; major improvement of attribute quality (Beneficial)
Medium	Loss of resource, but not adversely affecting integrity of resource; partial loss of/damage to key characteristics, features or elements (Adverse)
	Benefit to, or addition of, key characteristics, features or elements; improvement of attribute quality (Beneficial)
Low	Some measurable change in attributes, quality or vulnerability, minor loss or, or alteration to, one (maybe more) key characteristics, features or elements (Adverse)

Magnitude of impact	Definition
	Minor benefit to, or addition of, one (maybe more) key characteristics, features or elements; some beneficial impact on attribute or a reduced risk of negative impact occurring (Beneficial)
Negligible	Very minor loss or detrimental alteration to one or more characteristics, features or elements (Adverse)
	Very minor benefit to, or positive addition of one or more characteristics, features or elements (Beneficial)
No change	No loss or alteration of characteristics, features or elements; no observable impact either adverse or beneficial.

Receptor Sensitivity/Value

3.6.2.6 Several factors have been taken into consideration when assessing the value of an ecological feature and whether it is considered important and therefore requires assessment.

3.6.2.7 In assessing the value of habitats or species populations, a subjective assessment has been made, based on a range of factors that influence overall ecological value. Amongst other factors, a series of criteria have been considered for habitats and populations of species including fragility, rarity, extent, diversity, position in the landscape, naturalness, and recorded history.

3.6.2.8 Other resources that have been used to inform the assessment of value and importance include, but are not limited to:

- UK legislation
- Habitats and Species of Principal Importance (Section 41 of the NERC Act, 2006).

3.6.2.9 The resources used to assess the value and importance of features also help to define the importance in the context of geographical scale. The CIEEM guidelines (CIEEM, 2019) state that significance of effects on ecological features should be qualified with reference to the appropriate geographic scale. Therefore, to provide a framework that is consistent for both assessing the importance of ecological features and determining the significance of effects, the importance of ecological features has been described using the following geographic scales:

- International
- National (Wales)
- Regional (north-west Wales)
- County
- Local
- Site and immediate surroundings.

3.6.2.10 The criteria for how receptors have been valued is detailed in Table 3.19 below.

Table 3.19: Sensitivity Criteria.

Sensitivity	Definition
Very High (International)	An internationally designated site or candidate site, such as SACs, Biosphere Reserve or an area Natural Resources Wales/Natural England has determined meets the published selection criteria for such a designation, irrespective of whether or not it has yet been notified.
High (National)	A nationally designated site, e.g. SSSI, National Nature Reserves (NNR), or an area which Natural Resources Wales has determined meets the published selection criteria for national designation (e.g. SSSI selection guidelines irrespective of whether or not it has yet been notified).
Medium (Regional/County)	Viable areas of habitat identified in a County BAP or designated as a Local Wildlife Site (LWS), a local significant population of a species identified as important on a county basis, such as an LWS.
Low (Local)	Diverse and/or ecologically valuable habitats not of County importance.
Site	Features of value to the immediate area only.
Negligible	Commonplace feature of little or no habitat/historical significance. Loss of such a feature would not be seen as detrimental to the ecology of the area.

Significance of Effect

3.6.2.11 The significance of the effect upon onshore ecology is determined by correlating the magnitude of the impact and the sensitivity of the receptor. The method employed for this assessment is presented in Table 3.20. Where a range of significance of effect is presented in Table 3.20 (e.g. negligible, or minor), the final assessment for each effect is based upon professional judgement.

3.6.2.12 In all cases, the evaluation of receptor sensitivity, impact magnitude and significance of effect has been informed by professional judgement and is underpinned by narrative to explain the conclusions reached.

3.6.2.13 For the purposes of this assessment, any effects with a significance level of minor or less have been concluded to be not significant in terms of The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017.

Table 3.20: Matrix used for the assessment of the significance of the effect.

Sensitivity of Receptor	Magnitude of Impact				
	No change	**Negligible**	**Low**	**Medium**	**High**
Negligible	No change	Negligible	Negligible or Minor	Negligible or Minor	Minor
Low	No change	Negligible or Minor	Negligible or Minor	Minor	Minor or Moderate
Medium	No change	Negligible or Minor	Minor	Moderate	Moderate or Major
High	No change	Minor	Minor or Moderate	Moderate or Major	Major
Very High	No change	Minor	Moderate or Major	Major	Major

3.6.2.14 A description of the significance levels is as follows:

- Substantial: Only adverse effects are normally assigned this level of significance. These effects are generally, but not exclusively, associated with sites or features of international importance that are likely to suffer a most damaging impact and loss of resource integrity. However, a major change in a site or feature of national importance may also enter this category
- Major: These beneficial or adverse effects are generally, but not exclusively, associated with sites or features of international or national importance that are likely to suffer a most damaging impact and loss of resource integrity. However, a major change in a site or feature of regional importance may also enter this category
- Moderate: These may be beneficial or adverse effects, arising from a high level of impact on a less sensitive site or a lower magnitude of impact on a more sensitive site. The cumulative effects of such factors may lead to an increase in the overall effect on a particular resource or receptor
- Minor: These beneficial or adverse effects are often localised but may be important in enhancing the subsequent design of the Mona Offshore Wind Project
- Negligible: No effects or those that are beneath levels of perception, within normal bounds of variation or within the margin of forecasting error
- No change: Where the magnitude of impact is 'no change' no effect would arise.

3.7 Key parameters for assessment

3.7.1 Maximum Design Scenario

3.7.1.1 The Maximum Design Scenarios (MDS) identified in Table 3.21 have been selected as those having the potential to result in the greatest effect on an identified receptor or receptor group. These scenarios have been selected from the Project Design Envelope provided in Volume 1, Chapter 3: Project description of the Environmental Statement. Effects of greater adverse significance are not predicted to arise should any other development scenario, based on details within the Project Design Envelope.

Table 3.21: Maximum design scenario considered for the assessment of potential impacts on the Mona Offshore Wind Project.

[a] C=construction, O=operations and maintenance, D=decommissioning

Potential impact	Phase[a]			Maximum Design Scenario	Justification
	C	O	D		
The impact of temporary and permanent habitat loss during construction and decommissioning of the Mona Offshore Wind Project	✓	×	✓	**Construction phase** <u>Trenchless techniques</u> • The maximum number of trenchless technique locations along the Mona Onshore Cable Corridor is 45 and three along the 400 kV Grid Connection Cable Corridor. The temporary works areas for trenchless techniques will measure up to 2,500 m^2 and will be located within the 74 m temporary construction corridor. Dimensions of trenchless crossing launch pits and reception pits for watercourse, road and rail crossings are typically 10 x 10 m • Locations for trenchless techniques remain under consideration. Further details are available within Volume 5, Annex 3: Onshore crossing schedule, of the Environmental Statement. Open cut trenching along the Mona Onshore Cable Corridor: • The maximum duration of the construction phase for the Mona Onshore Cable Corridor is 33 months • The area of the permanent Mona Onshore Cable Corridor is up to 450,000 m^2 based on a corridor measuring 30 m wide and 15 km in length. The temporary working corridor requires an additional 44 m wide corridor (making the total width of the Mona Onshore Cable Corridor (temporary and permanent requirements) 74 m wide. The total temporary area of disturbance for the Mona Onshore Cable Corridor is up to 1,110,000 m^2. In localised sections of the route, the total width of the Mona Onshore Cable Corridor may increase to 100m (e.g. trenchless technique crossings) • There are up to four cable trenches within the permanent Mona Onshore Cable Corridor, each trench measures up to 2.5 m wide at the top, 1.5 m at the base and the depth is 1.8 m • The depth of stabilised backfill in each of the four onshore cable trenches is up to 600 mm. Surplus material excavated from the trenches will be spread on site • The maximum number of joint bays along the Mona Onshore Cable Corridor is 80 (based on a minimum distance of 750 m between each joint bay on up to four trenches). The area of each joint bay is up to 200 m^2 and each joint bay is 2 m deep; the volume of material excavated per joint bay is 400 m^3 (a total of 32,000 m^3 of material excavated for the joint bays)	The MDS for temporary and permanent habitat loss in terms of the Mona Onshore Cable Corridor and Mona the 400 kV Grid Connection Cable Corridor is the greatest number of cable trenches, joining bays, link boxes and construction compounds as they represent the greatest area of temporary and permanent loss which may support IEFs. The largest footprint of the Onshore Substation, permanent access road and the temporary works area construction compounds represent the MDS for impacts of permanent and temporary habitat loss on IEFs. The maximum area required for the construction of the Onshore Substation and permanent access road represents the maximum area of habitat that will be lost during the 35-year operational lifespan of the Mona Offshore Wind Project. The Mona Onshore Cable Corridor and 400 kV Grid Connection Cable Corridor Cable shall remain in situ in decommissioning phase however some of the other onshore infrastructure (e.g. link boxes) may be removed. The Onshore Substation and access road will be removed. The maximum area of these plus the area of the haul road (assumed for access) represents the maximum area of habitat that will be temporarily lost during decommissioning of the project.
The impact of habitat disturbance during construction, operations and maintenance and decommissioning of the Mona Offshore Wind Project.	✓	✓	✓	• The maximum number of link boxes along the Mona Onshore Cable Corridor is 80 (based on a distance of 750 m between each link box on up to four trenches). The area of each link box is up to 6 m^2 and each link box is 1 m deep; the volume of material excavated per link box is 6 m^3 (a total of 480 m^3 of material excavated for the link boxes) • Cable trenches will be backfilled with 0.6 m of stabilised fill and reinstated to ground level with the stored excavated soils. <u>Open cut trenching along the Mona 400 kV Grid Connection Cable Corridor:</u> • The maximum duration of the construction phase for the 400kV Grid Connection Cable Corridor is 33 months • The area of the permanent 400 kV grid connection Cable Corridor is up to 16,000 m^2 based on a corridor measuring 16 m wide and 1 km in length. The temporary working corridor requires an additional 32 m wide corridor (making the total width of the route to Grid connection (temporary and permanent requirements) 48 m wide. The total area of temporary disturbance for the 400 kV Grid Connection Cable Corridor is up to 48,000 m^2 • There are up to two cable trenches within the permanent 400 kV Grid Connection Cable Corridor, each trench measures up to 2.5 m wide at the top, 1.5 m at the base and the depth is 1.8 m • The depth of stabilised backfill in each of the two onshore cable trenches is up to 600 mm. Surplus material excavated from the trenches will be spread on site • The maximum number of joint bays along the 400 kV Grid Connection Cable Corridor is two (based on one joint bay on up to two trenches). The area of each joint bay is up to 200 m^2 and each joint bay is 2 m deep; the volume of material excavated per joint bay is 400 m^3 (a total of 800 m^3 of material excavated for the joint bays) • The maximum number of link boxes along the 400 kV Grid Connection Cable Corridor is two (based on one link box on up to two trenches). The area of each link box is up to 6 m^2 and each link box is 1 m deep; the volume of material excavated per link box is 6 m^3 (a total of 12 m^3 of material excavated for the link boxes)	Construction, operations, and maintenance and decommissioning of the Mona Offshore Wind Project may result in the disturbance of habitat (e.g. movement, noise, light spill, vibration), which may support IEFs. The maximum area required for the construction of the Mona Onshore Cable Corridor, 400 kV Grid Connection Cable Corridor, the Onshore Substation, the permanent access road, and the associated infrastructure represents the maximum area that will be subject to disturbance to IEFs during the 33-month construction period. Maintenance during the operational phase represents potential for disturbance, although this will be minimal and will be comparable to current background agricultural operations. The link boxes will be removed but The Mona Onshore Cable Corridor and 400 kV Grid Connection Cable Corridor Cable will remain in situ. The maximum area of the Mona Onshore Cable Corridor, 400 kV Grid Connection Cable and removal of temporary compounds represents the maximum area that will be subject to disturbance during decommissioning of the project.
The impact of habitat fragmentation and species isolation during construction and decommissioning of the Mona Offshore Wind Project.	✓	×	✓	• Cable trenches will be backfilled with 0.6 m of stabilised fill and reinstated to ground level with the stored excavated soil. <u>Haul Road</u>	Construction, operations, and maintenance and decommissioning of the Mona Offshore Wind Project may result in the fragmentation of habitat, which may limit species movements and isolate sensitive IEFs. The use of open cut trenching methods along the Mona

Potential impact	Phase[a]			Maximum Design Scenario	Justification
	C	O	D		
				• There is one haul road within the Mona Onshore Cable Corridor and 400 kV Grid Connection Cable Corridor along the length of the corridor; it is 6 m wide excluding passing places. It will be constructed using imported engineered granular fill with geotextile layers with a nominal thickness of 400 mm and a maximum thickness of up to 1,000 mm. <u>Construction compounds</u> • Up to two primary construction compounds (measuring up to 22,500 m^2) and up to four secondary construction compounds (each measuring up to 15,000 m^2) will be located within the Mona Onshore Development Area. Soils will be removed and stored; crushed stone or other suitable material will be used to create hardstanding • Storage areas may also be required at various locations within the Mona Onshore Development Area. These will operate as areas where some limited additional storage may be required in addition to the temporary land within the 74 m temporary corridor • Security and fencing will be provided at work sites on a 24-hour basis. Security lighting will be required at the compounds. Task lighting may also be required during working hours in the winter months. <u>Reinstatement</u> • On completion of installation work, the haul road will be removed, and the ground reinstated using stored subsoil and topsoil. All temporary construction compounds and temporary fencing will be removed, field drainage and/or irrigation will be reinstated, and the land will be restored to its original condition	Onshore Cable Corridor and 400 kV Grid Connection Cable Corridor in addition to the Onshore Substation and temporary works area represent the greatest potential for temporary habitat fragmentation, which some species may not cross. The maximum area of the Onshore Substation represents the greatest potential for permanent fragmentation of habitats during the operational phase of the Mona Offshore Wind Project. The link boxes will be removed but the Mona Onshore Cable Corridor and 400 kV Grid Connection Cable Corridor Cable will remain in situ. The maximum area of the Mona Onshore Cable Corridor, 400 kV Grid Connection Cable and removal of temporary compounds represents the maximum area that will be subject to fragmentation impacts during decommissioning of the project.
The impact of pollution caused by accidental spills/contaminant release during construction and decommissioning of the Mona Offshore Wind Project.	✓	×	✓	• Hedgerows will be replanted using locally sourced native species, where practicable. Suitably qualified and experienced contractors will be used to undertake the reinstatement, which will be based on restoring the hedge to match the remaining hedgerow at each location. Where appropriate, some enhancement (such as planting of additional suitable species) may be undertaken. <u>Onshore Substation</u> • The maximum duration of the construction phase for the Onshore Substation is 33 months, plus, up to 10 months for testing and commissioning • The maximum footprint of the Onshore Substation will measure 65,000 m^2 and will include the substation buildings. The earthworks to create the platform which will measure up to 75,000 m^2. The Onshore Substation will comprise up to four buildings. The maximum dimensions of the main building are 15 m high, 80 m wide and 140 m long • A piled foundation solution will be required • Access to the Onshore Substation will be via a new permanent access road measuring up to 8 m wide (up to 15 m wide including drainage) and 800 m in length • The area of temporary works (including construction compounds) will extend up to 150,000 m^2	Activities required for the construction and decommissioning of the Mona Offshore Wind Project may result in accidental spills/contaminant release, which could adversely affect IEFs. The use of open cut trenching along the Mona Onshore Cable Corridor and 400 kV Grid Connection Cable Corridor, Onshore Substation, permanent access road, and Temporary Construction Compounds represents the greatest area for potential contamination. The Mona Onshore Cable Corridor and 400 kV Grid Connection Cable Corridor Cable will be removed from the link boxes. The maximum area of the Mona Onshore Cable Corridor, 400 kV Grid Connection Cable and removal of temporary compounds represents the maximum area that will be subject to potential pollution contamination during decommissioning of the project.
The impact of spreading Invasive and Non-native Species (INNS) during construction and decommissioning of the Mona Offshore Wind Project	✓	×	✓	• The maximum area for the attenuation pond is 10,000m^2 • Approximately 5.8 hectares of woodland planting is proposed in proximity to the Onshore Substation and 715 m of hedgerow enhancements. **Operations and maintenance phase** The Mona Onshore Development Area will comprise the following key operational components: • Onshore export cabling (buried) • Onshore Substation (upstanding) • Mona 400kV Grid Connection Cable Corridor cable(s) (buried) • Permanent access road to Onshore Substation • The expected lifetime of the Onshore Substation is up to 50 years, and some components lives can be extended beyond this period. **Decommissioning phase** • The Onshore Cable and the 400kV Grid Connection Cable Corridor Cable will remain in situ, however some of the other onshore infrastructure (e.g. link boxes) may be removed • The Onshore Substation and access road will be removed.	Activities required for the construction and decommissioning of the Mona Offshore Wind Project may cause the spread of INNS, which could adversely affect the status of native IEFs habitats and species. The use of open cut trenching along the Mona Onshore Cable Corridor and 400 kV Grid Connection Cable Corridor, Onshore Substation, permanent access road, and Temporary Construction Compounds represents the greatest threat of release/spread of INNS. The Mona Onshore Cable Corridor and 400 kV Grid Connection Cable Corridor Cable will be removed from the link boxes. The maximum area of the Mona Onshore Cable Corridor, 400 kV Grid Connection Cable and removal of temporary compounds represents the maximum area that will be subject to potential release/spread of INNS decommissioning of the project.

3.8 Measures adopted as part of the Mona Offshore Wind Project

3.8.1.1 For the purposes of the EIA process, the term 'measures adopted as part of the project' is used to include the following measures (adapted from IEMA, 2016):

- Measures included as part of the Mona Offshore Wind Project design. These include modifications to the location or design of the Mona Offshore Wind Project which are integrated into the application for consent. These measures are secured through the consent itself through the description of the development and the parameters secured in the DCO and/or marine licences (referred to as primary mitigation in IEMA, 2016)
- Measures required to meet legislative requirements, or actions that are generally standard practice used to manage commonly occurring environmental effects and are secured through the DCO requirements and/or the conditions of the marine licences (referred to as tertiary mitigation in IEMA, 2016).

3.8.1.2 A number of measures (primary and tertiary) have been adopted as part of the Mona Offshore Wind Project to reduce the potential for impacts on onshore ecology. These are outlined in Table 3.22 below. As there is a commitment to implementing these measures, they are considered inherently part of the design of the Mona Offshore Wind Project and have therefore been considered in the assessment presented in section 3.9 below (i.e. the determination of magnitude and therefore significance assumes implementation of these measures).

3.8.1.3 Where significant effects have been identified, further mitigation measures (referred to as secondary mitigation in IEMA, 2016) have been identified to reduce the significance of effect to acceptable levels following the initial assessment. These are measures that could further prevent, reduce and, where possible, offset any adverse effects on the environment. These measures are set out, where relevant, in section 3.9 below.

3.8.1.4 In addition to the primary and tertiary mitigation measures, the applicant has also committed to deliver a Biodiversity Benefit and Green Infrastructure Statement (Document Reference J7) to ensure net biodiversity will be achieved as part of the Mona Offshore Wind Project.

Table 3.22: Measures adopted as part of the Mona Offshore Wind Project.

Measures adopted as part of the Mona Offshore Wind Project	Justification	How the measure will be secured
Primary measures: Measures included as part of the Mona Offshore Wind Project design		
The Mona Offshore Wind project has been developed to avoid designated sites, areas of woodland and other ecologically sensitive habitats wherever practicable.	To minimise the impact of construction on features of ecology and nature conservation value.	This commitment has been achieved through the site selection process and documented in Volume 1, Chapter 4: Site selection and consideration of alternatives of the Environmental Statement.
The commitment to using trenchless techniques to avoid impacts to habitats of principle importance, such as hedgerows, wherever practicable.	To avoid open trenching and minimise direct impacts to sensitive habitats.	The locations for which the Mona Offshore Wind Project has committed to the utilisation of trenchless techniques are set out in Volume 5, Chapter 4.3: Onshore crossing schedule (Document Reference F5.4.3), which is secured under requirements of the draft DCO.
The commitment to avoid of direct impacts to the designated features of the Traeth Pensarn SSSI. The Mona Offshore Wind Project has been designed to avoid direct impacts to the designated features of the Traeth Pensarn SSSI, namely the vegetated coastal shingle. However, there will still be construction vehicle movements within the boundary of Traeth Pensarn SSSI.	To avoid impacts to the designated feature of the Traeth Pensarn SSSI.	The Mona Offshore Wind Project has committed to avoiding direct impacts to Traeth Pensarn SSSI as part of the design, as reported in Outline Landfall Construction Method Statement (Document Reference J26.14), which is secured as a requirement of the DCO.
The commitment to using trenchless techniques within the intertidal area.	To avoid impact upon fragile intertidal habitats.	The locations for which the Mona Offshore Wind Project has committed to the utilisation of trenchless techniques are set out in Volume 5, Chapter 4.3: Onshore crossing schedule (Document Reference F5.4.3), which is secured as a requirement of the DCO.
The commitment to using trenchless techniques under Llanddulas Limestone and Gwrych Castle Wood SSSI.	To minimising direct impacts to sensitive habitats within Llanddulas Limestone and Gwrych Castle Wood SSSI.	The locations for which the Mona Offshore Wind Project has committed to the utilisation of trenchless techniques are set out in Volume 5, Chapter 4.3: Onshore crossing schedule (Document Reference F5.4.3), which is secured as a requirement of the DCO.
The commitment to reinstate habitats within the Onshore Development Area (which are not impacts by permanent above ground infrastructure), where practicable.	To minimise the potential impacts of habitat loss, disturbance, and fragmentation.	The re-instatement and protection of habitats during construction of the Mona Offshore Wind Project will be included as part of the detailed LEMP to be developed in general accordance with the Outline LEMP (Document Reference J22) and secured as a requirement of the DCO

Measures adopted as part of the Mona Offshore Wind Project	Justification	How the measure will be secured
The use of trenchless techniques under ordinary watercourses, where possible.	To avoid impacts upon sensitive watercourses.	The Outline Onshore Construction Method Statement (Document Reference J26.15), includes the methodologies for watercourse crossings to avoid significant impact of both open cut and trenchless crossings and is included as part of the DCO application. The locations for which the Mona Offshore Wind Project has committed to the utilisation of trenchless techniques are set out in Volume 5, Chapter 4.3: Onshore crossing schedule (Document Reference F5.4.3), which is secured as a requirement of the DCO.
The width of hedge to be removed will be limited where practicable.	To minimise the potential impacts of habitat loss, disturbance, and fragmentation.	Hedgerow loss will be minimised, and re-instatement of hedgerows will be undertaken, as soon as practicable. These measures will be included as part of the detailed LEMP to be developed in general accordance with the Outline LEMP (Document Reference J22) and secured as a requirement of the DCO.
The 7 m haul road will seek to use existing gaps in hedgerows to avoid hedgerow habitat removal. If hedgerow habitat removal is unavoidable, the ecologist will liaise with the design and engineering team to remove hedgerow habitat of least ecological value, or condition, where possible	To minimise the potential impacts of habitat loss, disturbance, and fragmentation.	Hedgerow loss along the haul road will be minimised, and re-instatement of hedgerows along the haul road will be undertaken, as soon as practicable. These measures will be included as part of the detailed LEMP to be developed in general accordance with the Outline LEMP (Document Reference J22) and secured as a requirement of the DCO.
Existing trees, scrub and hedgerows proposed to be retained and incorporated into the design for the Project would be protected during construction, as required. Measures would be put in place to ensure that bat and dormice foraging and commuting retained habitat, such as hedgerows and trees, in proximity to construction works, will be protected from impacts such as damage during the construction phase of the Project. Details are included in the Outline LEMP (Document Reference J22) and Outline	To reduce impacts on protected or otherwise notable species and habitats of ecological importance during construction.	The protection of habitats during construction of the Mona Offshore Wind Project will be included as part of the detailed LEMP to be developed in general accordance with the Outline LEMP (Document Reference J22) and secured as a requirement of the DCO. An Outline Arboricultural Method Statement has been prepared as part of the Outline CoCP (Document Reference J26.18) and is secured as a requirement of the DCO.

Measures adopted as part of the Mona Offshore Wind Project	Justification	How the measure will be secured
Arboricultural Method Statement (Document Reference J26.18).		
Creation of woodland belts to the south-west, west and north of the Onshore Substation to compensate for trees and hedgerows lost to facilitate the construction of the Onshore Substation. The hedgerow and woodland planting will extend to areas of existing woodland to strategically enhance connectivity.	To minimise loss of habitats of conservation interest and strengthen habitat connectivity. To improve habitat connectivity around the perimeter of the site for bats, Hazel Dormice and create strong habitat connectivity to areas of ancient woodland south of the Onshore Substation.	These measures will from part of the detailed LEMP, to be developed in general accordance with the Outline LEMP (Document Reference J22) and secured as a requirement of the DCO.
Creation of species rich hedgerows and tree planting to the south, east, west, and north of the Onshore Substation and along the Mona Onshore Development Area in a location that extend to areas of existing woodland and hedgerows and enhances connectivity at a landscape level.	To minimise loss of habitats of conservation interest and strengthen habitat connectivity.	
Creation of species rich grassland, scrub, ponds, hedgerows, and wildflower planting to provide a high value habitat, which is strategically located to maximise connectivity to receptor sites during construction and allow for species to naturally colonise this area post construction from adjacent important ecological receptors such as ponds, ancient woodland and LWS.	To provide habitats of conservation interest and strengthen habitat connectivity to compensate for loss of habitat within the Onshore Substation.	
Receptor areas for GCN and reptiles would be prepared in advance of the GCN Mitigation Licence, and the species translocated into these areas, using appropriate methods and timings prior to construction commencing within suitable habitats.	To reduce impacts on protected species.	The requirement to obtain relevant EPS mitigation licences prior to construction will be included as part of the detailed LEMP which will be developed in general accordance with the Outline LEMP (Document Reference J22) and secured under requirement the draft DCO. In addition, the requirement to obtain relevant protected species licences is also set out Other Consents or Licences Required (Document Reference J1) and secured as a requirement of the DCO.
Tertiary measures: Measures required to meet legislative requirements, or adopted standard industry practice		
The locations of all pre-construction archaeology and ground investigation works would be assessed for their	To minimise the impact of construction on features	These measures will from part of the detailed LEMP, to be developed in general accordance with the Outline LEMP

Measures adopted as part of the Mona Offshore Wind Project	Justification	How the measure will be secured
potential impacts on onshore ecology and nature conservation and appropriate mitigation would be implemented. This would include altering survey locations to avoid damage to features of high ecological value and watching briefs to ensure such features are not impacted upon.	of onshore ecological value.	(Document Reference J22) and secured as a requirement of the DCO.
Obtain EPS mitigation licences for Great Crested Newt, Bat and Hazel Dormouse from NRW prior to construction of the Mona Offshore Wind Project	Legally required to demonstrate that the project results in no likely detriment to maintenance of favourable conservation status (FCS).	These measures will from part of detailed LEMP, to be developed in general accordance with the Outline LEMP (Document Reference J22) and secured as a requirement of the DCO. In addition, the requirement to obtain relevant EPS mitigation licences is also set out in the Other Consents or Licences Required(Document Reference J1) and secured as a requirement of the DCO.
Obtain Badger Licence from NRW prior to construction of the Mona Offshore Wind Project	Legally required before any work commences which can cause damage to setts or disturbance to badgers.	The requirement to obtain a badger license prior to construction will be included as part of the detailed LEMP, which will be developed in general accordance with the Outline LEMP (Document Reference J22) and secured as a requirement of the DCO. In addition, the requirement to obtain a badger license is also set out in the Other Consents or Licences Required (Document Reference J1) secured as a requirement of the DCO.
Pre-construction surveys will be undertaken to identify any protected species, including bats, badger, Hazel Dormouse, GCN, otter, reptiles, and Water vole within the area. This will inform any necessary applications for protected species licences and any method statements which are required to be complied with during the construction period and will inform the detailed LEMP.	To reduce impacts on protected species and inform the detailed LEMP prior to construction commencing in the Mona Onshore Development Area.	These measures will from part of detailed LEMP, to be developed in general accordance with the Outline LEMP (Document Reference J22) secured as a requirement of the DCO.
The preparation of a detailed LEMP in general accordance with the Outline LEMP (Document Reference J22), which sets outs the requirements for future monitoring and management of retained or newly created	The purpose of the Outline LEMP (Document Reference J22) is to provide an overview of how the existing and newly created habitats within the Mona Onshore Development Area will be restored, enhanced, and managed during the initial stages of	The preparation of a detailed LEMP in general accordance with the Outline LEMP (Document Reference J22), which will be secured under requirement of the DCO will set out the commitments for monitoring.

Measures adopted as part of the Mona Offshore Wind Project	Justification	How the measure will be secured
habitats within the Mona Onshore Development Area.	establishment and during the life-time of the Mona Offshore Wind Project.	
The preparation of a detailed Outline CoCP in general accordance with the Outline CoCP (Document Reference J26), which will include, but not limited to: • Roles and responsibilities of the environmental co-ordinator and the suitably qualified Ecological Clerk of Works (ECoW) during construction activities • The implementation of appropriate biosecurity measures.	These measures are designed to prevent any adverse effect on minimise impacts on protected species and habitats during construction of the Mona Offshore Wind Project.	The preparation of a detailed Outline CoCP in general accordance with the Outline CoCP (Document Reference J26), which would be secured as a requirement of the DCO.
The Project has been designed to avoid areas of ancient woodland. Measures would be put in place to ensure that a minimum 15 m buffer is retained between ancient woodland and construction areas. Appropriately sturdy fencing will be erected around the 15 m buffer to prevent access by people, materials, or machinery to avoid compaction of soils or roots and to avoid any accidental damage.	To limit disturbance activity at the ancient woodland edges.	An Outline Arboricultural Method Statement has been prepared as part of the Outline CoCP (Document Reference J26.18) and is secured as a requirement of the DCO.
Works-free protective buffer zones will be established around retained habitats of ecology and nature conservation concern, namely woodland, mature broadleaved trees, hedgerows, and ponds, as well as sections of watercourses that will not be crossed by open-cut trenching. These buffer zones will be maintained throughout the works period. Tracking of heavy vehicles, the storage and refuelling of vehicles, storage of plant/machinery and soils will be prohibited within the buffer zones.	To limit impacts to retained habitats from construction related activities.	An Outline Construction Fencing Plan is included in DCO application (Document Reference J26.5). An Outline Arboricultural Method Statement has been prepared as part of the Outline CoCP (Document Reference J26.18). These measures will be included in the detailed CoCP, which will be developed in general accordance with the Outline CoCP (Document Reference J26) and secured as a requirement of the DCO.
Lighting during both construction, operations and maintenance and decommissioning phases will be	To reduce impacts on nocturnal protected species.	Measures proposed for the construction phase would be managed through the Outline CoCP (CoCP) (Document

Measures adopted as part of the Mona Offshore Wind Project	Justification	How the measure will be secured
designed to avoid areas of value to bats and Hazel Dormouse by towards directing towards working areas and shielding adjacent habitats of value.		Reference J26) and secured and secured as a requirement of the draft DCO (Document Reference C1.
The preparation of a detailed Biosecurity Protocol in general accordance with the Outline Biosecurity Protocol (Document Reference J26.11), which contains measures to the limit spread and/or introduction of INNS during construction.	These measures will aim to manage and reduce the risk of potential introduction and spread of INNS as far as reasonably practicable to best protect the biological integrity of the local natural environment and communities.	The preparation of a detailed Biosecurity Protocol in general accordance with the Outline Biosecurity Protocol (Document Reference J26.11), which is included as part of the Outline CoCP (Document Reference J26) and secured as a requirement of the DCO and secured under a Requirement of the draft DCO (Document Reference C1).

3.9 Assessment of significant effects

3.9.1 Introduction

3.9.1.1 The impacts of the construction, operations and maintenance, and decommissioning phases of the Mona Offshore Wind Project have been assessed for onshore ecology. The potential impacts arising from the construction, operations and maintenance and decommissioning phases of the Mona Offshore Wind Project are listed in Table 3.21, along with the MDS against which each impact has been assessed.

3.9.1.2 The Mona Offshore Wind Project includes a range of measures designed to reduce or avoid adverse ecological or nature conservation effects, and to provide biodiversity benefit where appropriate. The range of measures adopted, as detailed in section 3.8, that form part of the Mona Offshore Wind Project have been taken into account in this impact assessment.

3.9.1.3 Based on the criteria detailed in section 3.6 and the above-described criteria in the current section, the following 23 IEFs have been taken forward for assessment (Table 3.23).

Table 3.23: IEFs taken forward into the assessment.

Important Ecological Receptor (IEFs)	Description	Value	Sensitivity
Llanddulas Limestone and Gwrych Castle Wood SSSI	Limestone grassland, heath, and woodland vascular plants; bryophytes; butterflies; moths and a winter roost of lesser horseshoe bat.	National	High
Traeth Pensarn SSSI	Vegetated shingle beach plant communities.	National	High
Coedydd ac Ogofau Elwy a Meichion SSSI	Supports roosts of bats (including lesser horseshoe bat) which could also use habitats within the Mona Onshore Development Area.	National	High
Coed y Gopa SSSI	Supports roosts of bats (including lesser horseshoe bat) which could also use habitats within the Mona Onshore Development Area.	National	High
Ancient Woodland	Significant extent within the Mona Onshore Development Area	National	High
LWS – Coed Cord	Woodland within the Mona Onshore Development Area	County	High
LWS – Coed y Season	Woodland within the Mona Onshore Development Area	County	High
Broadleaved Parkland/Scattered Trees	Mature tree, which are a habitat of high ecological value are present throughout the Mona Onshore Development Area, of which	County	High

Important Ecological Receptor (IEFs)	Description	Value	Sensitivity
	some were identified as veteran trees which are irreplaceable.		
Semi-natural and plantation woodland	There is a block of semi-natural and plantation woodland to the north of the Onshore Substation within the Mona Onshore Development Area. This woodland comprises of some mature broadleaved oak along the access track to the south-east of the block, but the majority of the woodland block comprises re-planted ash trees, which are in a significant stage of decline due to ash die back disease. The woodland block is also interspersed with conifer plantation.	Low	Medium
Calcareous Grassland	The small extent of calcareous grassland in Section 2 within the Mona Onshore Development Area was classified as NVC community CG7a in the NVC survey and has a good diversity of indicator species.	District	Medium
Hedgerows	Extensive presence through the Mona Onshore Development Area including Ecologically Important hedgerows (Under the Hedgerow Regulations 1997).	County	Medium
Rivers	The potential value of the onsite watercourses is enhanced by virtue of the fact they have hydrological connections to larger main rivers and thus form part of these catchments	County	Medium
Ponds	Not qualifying under NERC Act (2006) Section 41 but supporting high species diversity	District	Medium
Bats	Moderate assemblage of species of conservation concern over a large area and including rare, uncommon, and scarce species for the region and Wales.	National to local for individual species and National for the overall assemblage.	High

Important Ecological Receptor (IEFs)	Description	Value	Sensitivity
Badger	Extensive presence throughout the Mona Onshore Development.	District	Medium
European eel	Limited presence within the Mona Onshore Development Area but critically endangered and high level of legal protection.	District	High
Great Crested Newts	Species of high conservation concern and high legal protection significant presence within the Mona Onshore Development Area and of potential importance for St Asaph national meta populations.	County	Medium
Hazel Dormouse	Species of high conservation concern and high legal protection with widespread but uncommon distribution in the county/region.	District	Medium
Otter	Species of high conservation concern and high legal protection with widespread but uncommon distribution in the country/region.	District	Medium
Water vole	Species of high conservation concern and high legal protection with widespread but uncommon distribution in the country/region	District	Medium
Terrestrial Invertebrates	Moderate species assemblage including 116 species across all sites, including 10 species of conservation concern, of which seven are Species of Principal Importance in Wales, 1 vulnerable species and one critically endangered.	County	Medium
Aquatic invertebrates	Assemblage indicative of moderately polluted conditions	Local	Low
Reptile - Common Lizard, Slow worm, and Grass Snake.	Three reptile species of conservation concern and legal protection: slow worm *Anguis fragilis*, grass snake *Natrix helvetica*, and common lizard *Zootoca vivipara*, were recorded within the Mona Onshore Development Area	District	Medium

3.9.2 The impact of temporary and permanent habitat loss

3.9.2.1 The construction and decommissioning of the Mona Offshore Wind Project may result in the temporary (Landfall, Onshore Export Cable Corridor and 400 kV Grid Connection Cable Corridor) or permanent (Onshore Substation) loss of habitat, which may support IEFs. The MDS is represented by the maximum surface area of habitat loss and is summarised in Table 3.21.

3.9.2.2 Construction effects are identified per IEFs below and this is followed by the assessment for decommissioning. Temporary and permanent habitat loss during operations and maintenance of the Mona Onshore Development Area is unlikely to be significant and has been scoped out of the assessment for onshore ecology (see Table 3.9).

The impact of temporary and permanent habitat loss on Llanddulas Limestone and Gwrych Castle Wood SSSI during construction

Magnitude of impact

3.9.2.3 The Mona Offshore Wind Project has committed to using trenchless techniques underneath Llanddulas Limestone and Gwrych Castle Wood SSSI (the Mona Onshore Cable Corridor passes underneath Gwrych Castle Wood) therefore, the SSSI will not be affected by temporary or permanent habitat loss.

3.9.2.4 The trenchless techniques entry and exit pits would be located within areas of improved grassland of low species diversity outside of the SSSI and will be approximately 30m beneath the woodland. Volume 6, Annex 6.6: Tree survey and Arboricultural Impact Assessment of the Environmental Statement has confirmed that a Root Protection Area (RPA) of a minimum of 15m will be maintained between works and the SSSI laying the cables via trenchless techniques. It is therefore considered that proposals would have no impact on Llanddulas Limestone and Gwrych Castle Wood SSSI.

3.9.2.5 As such, the magnitude of impact for temporary or permanent habitat loss is considered to be **no change**.

Sensitivity of the receptor

3.9.2.6 Llanddulas Limestone and Gwrych Castle Wood SSSI has eight qualifying features including limestone grassland, dry heath, semi-natural broadleaved woodland, lesser horseshoe bat hibernacula (caves), silver studded-blue butterfly, rare butterflies, moths, and a fly (invertebrate assemblage), rare lower plants, mosses (bryophyte assemblage) lichen and rare plants (vascular plant assemblage). This ecosystem takes hundreds of years to establish and, therefore the receptor is considered to be of high value. The sensitivity of the receptor is therefore, considered to be **high.**

Significance of effect

3.9.2.7 Overall, the magnitude of the impact is deemed to be no change and the sensitivity of the receptor is considered to be high. The effect will, therefore, be **no change**, which is not significant in EIA terms.

The impact of temporary and permanent habitat loss on Traeth Pensarn SSSI during construction

Magnitude of impact

3.9.2.8 While access to the beach is required for construction support works for the trenchless installation of the cables, the Mona Onshore Development Area has been designed to avoid the qualifying feature of the SSSI (coastal vegetated shingle), therefore the qualifying feature of the SSSI, will not be impacted by temporary or permanent habitat loss.

3.9.2.9 There will be no permanent or temporary habitat loss as a consequence of temporary access to the beach for construction support works within the extent of the SSSI. The magnitude of impact is therefore, considered to be **no change**

Sensitivity of the receptor

3.9.2.10 Traeth Pensarn SSSI extends for 1.7km along the North Wales coast. Coastal vegetated shingle is the qualifying feature of the SSSI. A vegetated shingle beach is composed of a mixture of plant communities. Some species are typical of the 'pioneer' community while others are more typical of the 'stabilised' community. Coastal vegetated shingle resource which is a threatened habitat because of rising sea levels, coastal erosion, and climate change. Vegetated shingle beaches are relatively rare habitats. Traeth Pensarn represents more than 10% of the total area of this habitat in Wales. As such the sensitivity of the receptor can be considered to be **high.**

Significance of effect

3.9.2.11 Overall, the magnitude of the impact is deemed to be no change, and the sensitivity of the receptor is considered to be high. The significance of effect will, therefore, be **no change**, which is not significant in EIA terms.

The impact of temporary and permanent habitat loss on Coed y Gopa SSSI

Magnitude of impact

3.9.2.12 Coed y Gopa SSSI is located 0.82 km from the Mona Onshore Development Area. Consequently, there will be no temporary or permanent habitat loss impacts during construction. The magnitude of impact is therefore **no change**.

Sensitivity of the receptor

3.9.2.13 Coed y Gopa is designated mainly for its assemblage of roosting bats including lesser horseshoe bat which is of national value. Coed y Gopa is therefore considered to be of **high** sensitivity.

Significance of effect

3.9.2.14 Given the magnitude of impact of no change, the sensitivity of the receptor is high, the significance of effect is **no change**, which is not significant in EIA terms.

The impact of temporary and permanent habitat loss on Coedydd ac Ogofau Elwy a Meichion SSSI during construction

Magnitude of impact

3.9.2.15 Coedydd ac Ogofau Elwy a Meichion is located 0.81 km from the Mona Onshore Development Area. Consequently, there will be no temporary or permanent habitat loss impacts during construction. The magnitude of impact is therefore **no change**.

Sensitivity of the receptor

3.9.2.16 Coedydd ac Ogofau Elwy a Meichion SSSI is designated for semi-natural broadleaved woodland including an assemblage of rare flowering plants and scarce bryophytes which will to be sensitive to environmental changes. The site is also designated for an assemblage of roosting bats. Given the range and type of habitats present, Coedydd ac Ogofau Elwy a Meichion SSSI is considered to have **high** sensitivity.

Significance of effect

3.9.2.17 Given the magnitude of impact of no change, the significance of effect is **no change**, which is not significant in EIA terms.

The impact of temporary and permanent loss of habitat on ancient woodland during construction

Magnitude of impact

3.9.2.18 The embedded mitigation measures of the Mona Offshore Wind Project include a commitment to use trenchless techniques underneath ancient woodland. Therefore, ancient woodland will not be affected by temporary or permanent habitat loss. Further details of the ecological mitigation are provided in the Outline LEMP (Document Reference J22). As such, the magnitude of impact for temporary or permanent habitat loss is considered to be **no change**.

Sensitivity of the receptor

3.9.2.19 Ancient woodland takes hundreds of years to establish and is defined as an irreplaceable habitat. Ancient woodland is deemed to be of high value and has none or very low recoverability. The sensitivity of the receptor is therefore, considered to be **high**.

Significance of effect

3.9.2.20 Given the magnitude of impact of no change, the significance of effect is **no change**, which is not significant in EIA terms.

The impact of temporary and permanent habitat loss on Local Wildlife Sites: Coed Cord and Coed y Season during construction

Magnitude of impact

3.9.2.21 There are two LWS, partially within the Mona Onshore Development Area, Coed Cord LWS and Coed y Saeson LWS, which are both ancient woodland (Data Map Wales 2021).

3.9.2.22 The permanent access road from the Glascoed Road to the Onshore Substation, will run adjacent to these LWS's but there will be no woodland loss and the arboriculture assessment (Volume 7, Annex 6.6: Tree survey and Arboricultural Impact Assessment

of the Environmental Statement) has confirmed that a Root Protection Area (RPA) of 15 m will be maintained between works and Coed Cord LWS and Coed y Saeson LWS during the construction of the permanent access road.

3.9.2.23 As such, the magnitude of impact for temporary or permanent habitat loss is considered to be **no change.**

Sensitivity of the receptor

3.9.2.24 The sensitivity of the two woodland LWSs Coed Cord, and Coed y Saeson is considered to be **high** as they are both ancient woodland hat takes hundreds of years to establish and is defined as an irreplaceable habitat.

Significance of effect

3.9.2.25 Overall, the magnitude of the impact of temporary or permanent habitat loss is deemed to be no change and the sensitivity of the receptor is considered to be high. The effect will, therefore, be **no change**, which is not significant in EIA terms.

The impact of temporary or permanent habitat loss on broadleaved trees (parkland) and scattered trees during construction

Magnitude of impact

3.9.2.26 Given the character of the extensive wooded landscape with broadleaved trees interspersed within hedgerows, the Mona Offshore Wind Project has aimed to retain trees where possible through the project design. Where possible, micrositing has been used to avoid impacts to trees. However, this has not been practicable in all areas. The process of the evolution of micrositing through project design will continue, but, as a worst case scenario, there will be no more than 10 trees lost to facilitate the construction of the Mona Onshore Cable Corridor and the 400kV Connection Corridor along the 15 km extent from landfall to the National Grid site at Bodelwyddan. There will be 46 trees lost to facilitate the construction of the Onshore Substation and associated permanent access road. This loss of trees will include some category A trees, such as mature oak trees, but no veteran trees will be lost, as detailed in Volume 7, Annex 6.6: Tree survey and Arboricultural Impact Assessment of the Environmental Statement. Therefore, it is predicted that in the short to medium term the magnitude of the habitat loss of broadleaved trees would be moderate adverse.

3.9.2.27 As detailed in the Outline LEMP (Document Reference J26), 5.8 ha of broadleaved woodland and individual broadleaved trees within hedgerows will be planted to restore and improve the character of the landscape in the longer term. The proposed reinstatement of broadleaved trees within the hedgerow network, along with the 5.8 ha mitigation broadleaved woodland planting, will increase species diversity and connectivity and, as such, would provide improved biodiversity benefit in the medium to long term. Therefore, the overall magnitude of impact would be positive in the long term. Further details of the ecological mitigation are provided in the Outline LEMP (Document Reference J22). The magnitude of impact is therefore considered to be **low.**

Sensitivity of the receptor

3.9.2.28 Matured broadleaved trees play an important role in combatting climate change and help prevent water pollution and soil erosion. They also provide potential breeding habitat for species such as bats, birds, and Hazel Dormouse. Therefore, the sensitivity of the receptor is considered to be **high.**

Significance of effect

3.9.2.29 Following the application of the proposed mitigation measures, the magnitude of impact is deemed to be low, and the sensitivity of receptor is considered to be high. The effect will, therefore, be of **minor adverse** significance, which is not significant in EIA terms.

The impact of temporary and permanent habitat loss Woodland semi-natural and plantation

Magnitude of impact

3.9.2.30 A block of semi-natural and plantation woodland within the Mona Onshore Development Area, to the north of the Onshore Substation will be directly affected during construction. The woodland is referred to as block 11 in Figure 2.4: Illustrative landscape and ecology strategy plan of the Outline LEMP (Document Reference J22). This land is required to facilitate the construction of the permanent access road to the Onshore Substation that will result in the permanent loss of approximately 870 m^2 of woodland.

3.9.2.31 The woodland, block 11, is within the Mona Onshore Development Area and has been included as embedded mitigation for both woodland screening to the north of the Onshore Substation and, also, to improve the quality and biodiversity of the woodland. The proposed mitigation for woodland regeneration as detailed in the Outline LEMP (Document Reference J22). It includes management to improve the quality of the woodland through, removal of trees with ash die back disease, which is intended to remove the disease from the immediate area, reduce the risk of it spreading and to open the canopy, which will enable other native species to develop. All non-native tree species will also be removed, which will further help native species within the woodland. All retained trees within the woodland including the mature oak trees and the trees adjacent to the construction works will be protected from physical damage. The woodland will be monitored to assess whether natural regeneration is effective and, if not, remedial planting will be provided. All woodland and tree planting will be undertaken as early as practicable in the Mona Onshore Development programme to ensure the trees have as much time to grow as possible.

3.9.2.32 The requirement to remove approximately 870m^2 of woodland through open-cut trenching, works would have a medium-term moderate adverse impact on the woodland block 11 to the north of the Onshore Substation. This impact is temporary and will exist until the mitigation planting described above reaches maturity. Therefore, with mitigation and taking account of the availability of comparable woodland in the wider landscape, the small and localised extent of the loss, the reduced quality and health of the trees to be lost, the magnitude of the temporary impact is **low.**

Sensitivity of the receptor

3.9.2.33 The woodland is dominated by ash trees interspersed with non-native coniferous trees. Mature broadleaved oak trees are present in a cluster oak along the existing access track to the south-east. Many of the ash trees that have been planted and are in a significant stage of decline due to ash die back disease. However, woodland plays an important role in combatting climate change and helps prevent water pollution and soil erosion. Woodland also provides breeding and foraging habitat for species such as bats, birds, and Hazel Dormouse. Due to, the quality of woodland given non-native species and re-planted ash with evidence of as die back, the sensitivity of the receptor is considered to be **medium.**

Significance of effect

3.9.2.34 Following the application of the proposed mitigation, overall, the magnitude of impact is low, and the sensitivity of receptor is medium. The effect will, therefore, be of **minor adverse** significance, which is not significant in EIA terms.

The impact of temporary and permanent habitat loss on calcareous grassland during construction

Magnitude of impact

3.9.2.35 The small extent of calcareous grassland in Section 2, which lies partially within the Mona Onshore Development Area was classified as NVC community CG7a in the NVC survey (see Volume 7, Annex 3.14: National Vegetation Classification and Non-Native Species Technical Report of the Environmental Statement). This is a Habitat of Principal Importance listed in Section 7 of the Environment (Wales) Act 2016.

3.9.2.36 Permanent and temporary habitat loss will be avoided using trenchless techniques. Access required to allow implementation of trenchless techniques will use an existing track to the west of the cable corridor (within the Mona Onshore Development Area) to move between the entry and exit pits, which will ensure there will be no temporary loss or damage to this habitat as a result of the haul road. As such the magnitude of impact is considered to be **no change.**

Sensitivity of the receptor

3.9.2.37 Calcareous grasslands are considered, in general, to be semi-natural habitats, because without human management through grazing, cutting, or burning, they would eventually turn into scrub and woodland through natural succession (Dengler *et a*l., 2014; Poschlod & Wallis de Vries, 2002). While it is limited in extent within the Mona Onshore Development Area, this habitat is uncommon particularly in Wales National Archives (2011) and, as such, is considered to be **medium** sensitivity.

Significance of effect

3.9.2.38 Overall, the magnitude of the impact of temporary or permanent habitat loss is deemed to be no change and the sensitivity of the receptor is considered to be high. The effect will, therefore, be **no change**, which is not significant in EIA terms.

The impact of temporary and permanent habitat loss on hedgerows during construction

Magnitude of impact

3.9.2.39 In total, within the Mona Onshore Development Area, there are 17 km of important hedgerows and 19.8 km of hedgerows not defined as important under the Hedgerow Regulations 1997. Therefore, there is a total of 36.8 km of hedgerow within the Mona Onshore Development Area and hedgerows are a Habitat of Principal Importance listed in Section 7 of the Environment (Wales) Act 2016.

3.9.2.40 Where possible hedgerows within the Mona Onshore Development Area will be retained, however, there will be temporary loss of hedgerows where the Mona Onshore Cable Corridor and the 400kV Grid Connection Cable Corridor is installed, and for temporary construction compounds, access roads and associated visibility splays. There will be no loss of two hedgerows south of the Llanddulas Limestone and Gwrych Castle Wood SSSI, where an existing access track to the west of the cable corridor

will be utilised to avoid impacts to the SSSI. A total of 130 hedges will be subject to temporary effects.

3.9.2.41 There is a commitment to use trenchless techniques to avoid impacts on hedgerows (and other Habitat of Principal Importance) wherever practicable. The Mona Offshore Wind Project has committed to use trenchless techniques at 57 hedgerows along the Mona Onshore Cable Corridor and the 400kV Grid Connection Cable Corridor. The locations for which the Mona Offshore Wind Project has committed to the utilisation of trenchless techniques are set out in Volume 5, Chapter 4.3: Onshore crossing schedule of the Environmental Statement, which is secured as a requirement of the DCO. In cases where trenchless techniques will be utilised, there will still be a requirement to install a 7 m haul road to enable the construction activities to take place. Consequently, there will still be a temporary loss, but of more limited extent as the construction corridor will reduce from 74m to 7m.

3.9.2.42 More than half of the hedgerows (73 out of 130) (55%) have the option to be open trenched to install the cables, adopting a precautionary approach it is assumed at this location the hedgerows would be removed across the whole Mona Onshore Development Area (74 m). There will also be temporary hedgerow loss at the Onshore Substation as a consequence of temporary works such as the temporary compounds, temporary access roads and areas for construction related activities. The worst case scenario of temporary hedgerow loss across the Mona Onshore Development Area would be approximately 7km comprising approximately:

- 5.4 km of hedgerow loss for the open trenching (73 hedgerows with a maximum width of 74 m including the haul road)
- 400 m for the construction haul road at locations where trenchless techniques are used (57 hedgerows with a maximum width of 7 m)
- 200 m for the Onshore Substation and associated Temporary Construction Compounds
- 1 km to allow access and appropriate visibility splays.

3.9.2.43 It is unlikely that all of this hedgerow habitat will be removed for both open trenching and the haul road as the Mona Offshore Wind Project will seek to use existing gaps in hedgerows to avoid hedgerow habitat removal. If hedgerow habitat removal is unavoidable, the ecologist will liaise with the design and engineering team to remove hedgerow habitat of least ecological value, or condition, where possible, as detailed in the Outline LEMP (document reference: J.22). Re-instatement of hedgerow habitats will take place as soon as practicable once the cables have been installed but the 7 m haul road is likely to remain in place for duration of construction to enable testing to take place, as detailed in Table 3.21. On completion of construction, the temporarily lost hedgerows will be replanted using locally sourced native species, as detailed in the Outline LEMP (document reference: J.22). However, there would be a loss of habitat and connectivity during the construction phase and until any new planting had established. Therefore, it is considered that in the short/medium term there is a medium impact.

3.9.2.44 As detailed in the Outline LEMP (document reference: J.22; Figure 2.1 – 2.3), there will hedgerow enhancement and creation at eleven strategic locations (approximately 4.2 km) along the Mona Onshore Cable Corridor which will provide improved landscape level connectivity as many of the hedgerows identified are not important hedgerows that are in moderate or poor condition and, when enhanced will provide better links to existing blocks of woodland. This approach to hedgerow enhancement

will improve connectivity and a landscape scale along with improving species diversity. Providing access is possible, then these areas will be prioritised for advanced planting as detailed in the Outline LEMP (document reference: J.26).

3.9.2.45 Approximately 550 m of hedgerow will be permanently lost as a result of the Onshore Substation and permanent access road. In addition to this, there will be a requirement to remove hedgerows at the identified construction access locations to ensure visibility requirements are met. The permanent loss of up to 550m of hedgerow habitat will be mitigated for by the 2.5 km of proposed species-rich hedgerow creation and enhancement at the Onshore Substation that will restore former field boundaries and help to improve habitat connectivity, particularly to Ancient Woodland sites to the south, such as Bryn Cefn, north of the River Elwy.

3.9.2.46 The impact of hedgerow loss is predicted to be of a medium term duration but with high recoverability. Most of the loss will be temporary with the majority of the hedgerows being re-instated following construction, with an additional 6.7km of hedgerow either being created or enhanced. The embedded mitigation will ensure that there is an improvement in hedgerow quality and connectivity at strategic location. The magnitude of impact for temporary and permanent hedgerow loss is therefore, considered to be **low**.

Sensitivity of the receptor

3.9.2.47 Hedgerows provide important connectivity for a species such as Hazel Dormice and bats but have the ability to establish following a planting and appropriate management regime. Therefore, the sensitivity of the receptor is considered to be **medium.**

Significance of effect

3.9.2.48 In the medium term there would be moderate adverse effect from the temporary loss of approximately 7 km of hedgerows and permanent loss of 550 m of hedgerows. However, following the re-instatement of 7 km, enhancement of 4.2 km of hedgerow along on the Onshore Cable Corridor and the creation and enhancement of 2.5 km of hedgerow around the Onshore Substation to mitigate for those that are permanently lost, in accordance with the Outline LEMP (Document Reference J22), the magnitude of impact will be low beneficial and the overall impact will be **minor beneficial**, which is not significant in EIA terms.

The impact of temporary and permanent habitat loss on rivers and ordinary watercourses during construction

Magnitude of impact

3.9.2.49 There are 10 ordinary watercourses within the Mona Onshore Development Area. Nine ordinary watercourses will be crossed to enable the installation of the cables within the Onshore Cable Corridor. The Mona Offshore Wind Project has made a commitment to use trenchless techniques to cross seven of these ordinary watercourses (see Volume 5, Annex 4.3: Onshore crossing schedule of the Environmental Statement). The other two ordinary watercourses will be crossed using open cut trenching.

3.9.2.50 The haul road and a temporary access road at the Onshore Substation site will traverse the watercourses in the Mona Onshore Development Area. At each watercourse crossing, pipe flumes will be used to accommodate the haul road. The pipe flume installation will entail the damming of a 7 m stretch of the watercourse. The length of each water course directly affected will be a small extent of the total watercourse length but will entail temporary damage of bank habitat within the

dammed section. The pipe flumes will be removed along the haul road after the construction activities have been completed and the bank side vegetation to be subsequently re-instated as required.

3.9.2.51 There would be a short-term loss of bankside habitat before new vegetation has established, which would be anticipated to take less than one year given the nature of bankside vegetation and this would affect a very short section of the watercourses. This would also apply during the removal process of the pipe flumes at the end of construction. Therefore, it is considered that the overall magnitude of impact on temporary and permanent loss of the ordinary watercourses would be low, given the limited extent of impacts.

3.9.2.52 Best practice measures will be implemented during pipe flume and culvert installation and removal during construction, as outlined in the Outline CoCP (Document Reference J26). This will minimise downstream impacts that could result from silt or soil entering the water course. Therefore, impacts on water quality will be minimal and short-term.

3.9.2.53 An ordinary watercourse is located directly to the east of the Onshore Substation and flows from the southwest to the northeast. The construction of the Onshore Substation will require the diversion of a section of the watercourse around the perimeter of the substation (see the Outline Operational Drainage Management Strategy (Document Reference J27).

3.9.2.54 This will effectively result in the medium term temporary loss of approximately 400 m of stream habitat, while the watercourse is re-aligned. The realigned stream will be designed and created to provide channel and bankside habitats of at least equal ecological value to the original watercourse. Therefore, in the long term there will be no net loss of this habitat.

3.9.2.55 The impact is therefore predicted to be of local spatial extent, short term duration, and reversible. It is predicted that the impact will affect the receptor directly but given the short lengths of watercourse affected by the haul road crossings, and the reinstatement of the realigned watercourse the magnitude of the impact would be **low.**

Sensitivity of the receptor

3.9.2.56 The potential value of the onsite watercourses is enhanced by virtue of the fact they have hydrological connections to larger main rivers and thus form part of these catchments.

3.9.2.57 As such the sensitivity of the receptor can be considered to be **medium.**

Significance of effect

3.9.2.58 Overall, the magnitude of the impact is deemed to be low, and the sensitivity of the receptor is considered to be medium. The effect will, therefore, be **minor adverse**, which is not significant in EIA terms.

The impact of temporary and permanent habitat loss on bats during construction

Magnitude of impact

3.9.2.59 The works within the Mona Onshore Development Area will result in the loss of a range of habitats suitable for roosting, commuting and foraging bats.

Roosts

3.9.2.60 A total of 14 bat roosts were identified in trees within the Mona Onshore Survey Area, of which three were located within the Mona Onshore Development Area.

3.9.2.61 The roosts recorded in the Mona Onshore Development Survey Area were five pipistrelle bat day roosts (each of a single bat), three soprano pipistrelle bat day roosts (two of a single bat and one roost with droppings only), two Natterer's bat day roosts (each of a single bat), two noctule bat day roosts (one of a single bat and one with three roosting noctule bats) and two day roosts of an unidentified bat species (as the bat did not echolocate as it emerged from a tree).

3.9.2.62 One bat roost, the noctule bat day roost with a maximum count of three individuals, will be permanently lost as the tree roost is located within the footprint of the Onshore Substation and there is no option to microsite around it. However, as discussed at the EWG6 meeting, the tree is a standing dead oak tree and there is a commitment to translocate the roosting feature to an alternative tree of the same size and dimensions close by, within the DCO Order Limits, or onto a pole as specified in the bat mitigation guidelines (Reason and Wray, 2003). Of the 46 trees lost within the Onshore Substation and permanent access road, 19 of these have features with potential to support bat roosts. Therefore, a total of 20 trees that support bat roosts, or have features with potential to support bat roosts will be lost.

3.9.2.63 This mitigation measure is set out in and secured through the Outline LEMP (Document Reference J22). The optimal location for the translocated roosting feature would be in proximity to the Local Wildlife Sites: Coed Cord and Coed y Season, LWS, as these woodlands are known to support noctule bat roosts (as reported in the EWG6 meeting) but within the order limits. However, the translocated roosting feature will not be re-located close to construction activities to avoid disturbance impacts. This roost translocation methodology, which is specifically for noctule bats has demonstrated success in some scenarios where a felled trunk was reinstated against the nearest suitable tree using a high-lift and straps. The mitigation was shown to work in the short term and allowed the noctule colony time to adapt to alternative roosts in woodpecker holes within the woodland (Damant & Dickins 2013). Informal monitoring indicated that the bats were still using the translocated limb in 2017, demonstrating success.

3.9.2.64 A pipistrelle day roost is in close proximity to the temporary construction compound within the Onshore Substation and a second is in an area where is can be retained with the use of trenchless techniques. Both will be protected during construction through implementing tree protection measures during construction, as detailed in the Outline LEMP (Document Reference J22).

3.9.2.65 The bat surveys also identified a further 814 trees within the Mona Onshore Development Area that were considered to have features that could support both roosting and hibernating bats (Volume 7, Annex 3.9: Bat roost survey technical report of the Environmental Statement) that will be retained. Given the availability of tree roost resource in the wider landscape, the loss of a single tree roost for three noctule bats and 19 trees with features that have potential to support bat roosts, would be considered to be no more than a **low** magnitude of impact.

Commuting

3.9.2.66 There will be temporary loss of approximately 7 km of hedgerows within the Mona Onshore Development Area and permanent loss of approximately 550 m of hedgerow habitat within the Onshore Substation Area. Loss of hedgerow habitat could disrupt

the movements of the 10 bat species within the Mona Onshore Development Area between roosts and foraging sites. This includes lesser horseshoe bats which use flight lines within the Mona Onshore Development Area returning to winter roosts in areas such as Llanddulas Limestone and Gwrych Castle Wood SSSI (winter hibernation site), Coedydd ac Ogofau Elwy a Meichion SSSI (caves) and Coed y Gopa SSSI (disused stone quarry).

3.9.2.67 In order to mitigate for these impacts retained hedgerows will be protected. If required, and as detailed in the Outline LEMP (Document Reference J22), temporary measures will be provided to prevent barriers to dispersal so that bats to cross trenchless excavations and haul roads and move through the landscape and between roosts and foraging areas, until replanting reinstates habitat connectivity. Eleven strategic hedgerows adjacent to the Mona Onshore Cable Corridor will be enhanced to provide alternative commuting corridors between important roost sites, for example within areas of high bat activity such as Llanddulas Limestone and Gwrych Castle Wood SSSI. Enhancement of these hedgerows will take place in advance of construction where practicable, so they can provide alternative optimal habitat for bats as soon as possible in relation to the timing of habitat loss. The locations of these hedgerows are detailed in the Outline LEMP (Figure 2.1 – 2.3 Document Reference J22). The permanent loss of hedges in the Onshore Substation Area will be mitigated with the planting of 2.5 km of hedgerows in this area.

3.9.2.68 The impact of temporary hedgerow loss for commuting bats is therefore predicted to be of local spatial extent, short term duration, and reversible, and would result in a medium impact in the short term.

3.9.2.69 In the long term, once the hedgerows have established, there will be a net gain of hedgerows along the Mona Onshore Cable Corridor and improved connectivity for commuting bats between woodland blocks within the landscape, particularly south of the Onshore Substation linking to ancient woodland. The embedded mitigation secured as part of the Outline LEMP (Document Reference J22) will ensure that there is a betterment of the hedgerow quality and connectivity.

3.9.2.70 The magnitude of impact would therefore be **low beneficial** in the longer term given the increased habitat connectivity to woodland blocks both along the Mona Onshore Cable Corridor and the 400 kV Grid Connection Cable Corridor and at the Onshore Substation.

Foraging

3.9.2.71 There is the potential that both the temporary and permanent habitat loss could reduce the levels of bat foraging activity in this area, particularly around the Onshore Substation where trees, hedgerow, and grassland, which could provide a resource for invertebrates (bat prey) will be both temporarily and permanently lost.

3.9.2.72 However, embedded mitigation measures will seek to reduce this impact. These measures include the retention and enhancement of the higher value LWS Coed Cord and Coed Y Saeson woodlands, as detailed in the Outline LEMP (Document Reference J22). This means that large areas of high value habitat would remain unaffected, and these woodland habitats connect to hedgerows and riparian habitats to the east, which would provide alternative sources of foraging.

3.9.2.73 In the short term there will potentially be a lower reduction in bat foraging activity predicted until the Onshore Substation has been built and the new mitigation habitat areas had established, this would result in a medium magnitude of impact for foraging bats in the short term. In the longer term, once the proposed planting and

enhancement of woodland, plantation and hedgerow establishes, including in the mitigation area around the Onshore Substation and as detailed in the Outline LEMP (Document Reference J22), it is predicted that magnitude of impact on foraging bats is likely to be **medium beneficial.**

Sensitivity of the receptor

3.9.2.74 The presence of 10 species of bat is not significantly high given the extent of the survey area, and most of the activity was mostly of common and widespread species. However, the significance of the Mona Onshore Development Area for lesser horseshoe bat (national value) and Leisler's bat (district value) along with the overall assemblage of bats across the extent of the Mona Onshore Development Area, means that the Mona Onshore Development Area is considered to be of national value for bats and, as such, the sensitivity of the receptor is considered to be **high.**

Significance of effect

3.9.2.75 With the implementation of mitigation, given that the sensitivity of the receptor is high, the significance of effect on the loss of trees that support roosting bats or have features that can potentially support roosting bats is low, despite the long term beneficial impacts predicted for commuting and foraging bats, it is considered that the temporary and permanent habitat loss during construction is **minor adverse**, which is not significant in EIA terms.

The impact of temporary and permanent habitat loss on Badger during construction

Magnitude of impact

3.9.2.76 A total of 100 setts were identified within the badger survey area, of which 58 were active and 42 were inactive. Of the 58 active setts within the badger survey area, 13 were classified as Main setts, 5 were Annex setts, 17 were Subsidiary setts and 23 were Outlier setts. Of the 58 active setts, 12 were within the Mona Onshore Development Area and 13 additional setts were within 30m of the Mona Development Area (the precautionary exclusion zone for badgers as defined by NRW (2023)).

3.9.2.77 One sett has been identified within the Mona Onshore Development Area which is likely to required closure under a NRW badger sett closure licence. Either an artificial sett will be created within the badger social group's territory or offsite mitigation could be provided given the density of the badger population in the area (as discussed with the EWG).

3.9.2.78 Further surveys will be undertaken pre-construction to better understand the size and location of the badger territory and to identify other setts within it given the mobile nature of the species before the final mitigation is determined in agreement within NRW. The closure of any setts would be undertaken under licence from NRW, using the most up to date best practice guidance (Badger Trust, 2023).

3.9.2.79 The increase in construction traffic and associated movements in areas around setts within the Mona Onshore Development Area would mean there is a potential for a corresponding increase in road mortality for badgers using the site. However, it is not expected that badger movement (principally at night) and construction traffic would overlap significantly. There is also the risk of badgers accessing construction areas. These risks will be mitigated by measures designed into the Mona Offshore Wind Project that would be implemented to ensure that no badgers were harmed during the

construction phase. Details are provided in the Outline CoCP (Document Reference number J26).

3.9.2.80 The closure of a main sett would result in a medium-term, **low** magnitude impact on badgers.

Sensitivity of the receptor

3.9.2.81 The number of badger setts identified throughout the area indicates that they are extremely widespread. However, in the absence of mitigation badgers are very susceptible to the impacts of construction. Therefore, the sensitivity of the receptor is considered to be **medium.**

Significance of effect

3.9.2.82 Overall, the magnitude of impact is deemed to be low, and the sensitivity of receptor is considered to be medium. The effect will, therefore, be of **minor adverse** significance which is not significant in EIA terms.

The impact of temporary and permanent habitat loss on European eel during construction

Magnitude of impact

3.9.2.83 The field survey found European Eel in one watercourse assessed as being suitable to support fish/eels. The watercourse flows through Section 2 at Nant Fawr. The Mona Offshore Wind Project has made a commitment to use trenchless techniques to cross this watercourse for cable installation. The watercourse will be dammed, and a pipe flume installed to accommodate the haul road crossing. This will affect a 7m stretch of the watercourse.

3.9.2.84 Pipe flumes will be installed in such a way as to ensure continued good water flow through the pipe even in times of low water, to enable eels to continue to move along the watercourse. Trenching work at smaller water courses and ditches will not take place at night and will include measures such that eels cannot become trapped within the work area, for example ramped ends. As such, no permanent impacts to eel populations are anticipated.

3.9.2.85 Given the primary and tertiary embedded mitigation, there would be a **low** magnitude impact of permanent and temporary habitat loss on European Eel.

Sensitivity of the receptor

3.9.2.86 Given the critically endangered status of European Eel and the corresponding district value of the receptor, the sensitivity of the receptor can be considered to be **high.**

Significance of effect

3.9.2.87 Overall, the magnitude of impact is deemed to be low, and the sensitivity of receptor is considered to be high. The effect will, therefore, be of **minor adverse** significance which is not significant in EIA terms.

The impact of temporary and permanent habitat loss on GCN during construction

Magnitude of impact

3.9.2.88 GCN have been recorded throughout eastern Wales but very infrequently in central or western Wales (DataMapWales, 2023). North-east Wales is recognised as being

particularly rich in the species (Cofnod, 2023). Previous studies of GCN have assessed the metapopulation within the St. Asaph area as being of national importance (Haysom *et al*. 2018). The Onshore Substation is situated at the south-western edge of the known distribution of the St. Asaph metapopulation. The Current Conservation Status (CCS) is not in favourable condition and, as such, the Mona Offshore Wind Project has an opportunity to contribute towards St. Asaph metapopulation attaining FCS.

3.9.2.89 A total of 7.5 ha of sub-optimal aquatic and terrestrial habitats (primarily intensively farmed agricultural land) which is suitable for supporting GCN will be permanently lost to accommodate the Onshore Substation and permanent access road.

3.9.2.90 The area of habitats that will be temporarily damaged through temporary works around the Onshore Substation (construction/earthworks/mitigation creation areas) is approximately 12.9 ha.

3.9.2.91 A total of nine ponds, where GCN have been confirmed (or assumed) present, are located within the Onshore Substation Area. Of these, two ponds would be permanently lost, and seven ponds would be temporarily lost (located within area for Temporary Construction Compounds at the Onshore Substation).

3.9.2.92 It has been proposed and agreed in principle with NRW at the EWG6 meeting, that a capture and exclusion from the Onshore Substation Area will be undertaken to remove GCN and translocate them to an adjacent receptor site, of approximately 9 ha to the east of the Onshore Substation. Details are provided in the Outline LEMP (Document Reference J22). This receptor site will be enhanced prior to the translocation commencing. It will not be fenced and translocated GCN will be able to disperse to other habitats within the St Asaph metapopulation range to the north and east.

3.9.2.93 Along the cable route, a displacement approach using Reasonable Avoidance Measures (RAMs) will be adopted due to the extent and distance of the affected habitats from ponds and optimal GCN habitats. As such, the risk of GCN being encountered is expected to be lower along the Mona Onshore Cable Corridor, compared to the area around the Onshore Substation. All works affecting GCN will be undertaken under a NRW mitigation licence.

3.9.2.94 Therefore, the magnitude impact for the temporary habitat loss of 12.9 ha of predominately sub-optimal terrestrial, in addition to the temporary loss of seven ponds and the permanent sub-optimal terrestrial habitat loss of 7.5 ha, in addition to the permanent loss of two ponds would be medium in the short term.

3.9.2.95 However, with the application of the mitigation measures which are embedded and detailed in the outline GCN mitigation strategy which has been prepared as an appendix to the Outline LEMP (Appendix C, Document Reference J22). The Outline GCN Mitigation Strategy sets out the approach to GCN mitigation, which predicts the betterment of habitats for the St Asaph GCN metapopulation of national importance.

3.9.2.96 This includes the creation of approximately 12.48 ha of optimal GCN habitat. Nine ponds will be re-instated and 16 new ponds will be created, resulting in an increase in aquatic habitat from 0.09 ha to 0.89 ha. The ponds will be situated strategically to function as steppingstones to encourage the metapopulation to expand into this area post construction. There will also be approximately 3.9 ha of wildflower meadow, 3.4 ha of species rich tussocky grassland, 0.58 ha of scrub habitat and hibernacula created. The hedgerow creation and creation of 5.8 ha of woodland around the Onshore Substation will provide additional enhancement (but is not considered part of the core 12.48 ha of optimal GCN habitat).

3.9.2.97 These mitigation measures will provide opportunities for the existing meta-population to expand in size and into new areas, further south and west, thereby creating a more stable population less likely to be affected by any (non-Project related) effects. However, Therefore, there would be a beneficial impact of medium magnitude in the long term. However, the current CCS of the St Asaph metapopulation is not in favourable condition and, as such, considering the receptor is the entire St Asaph metapopulation of national importance, and not individual GCN associated with the Mona Onshore Development Area, it is considered appropriate at this stage to consider the impact to be **low beneficial.**

Sensitivity of the receptor

3.9.2.98 It is considered that the sensitivity of the receptor is **medium** as GCN is medium conservation importance and has medium ability to recover. Individual GCN can live for up to 15 years (Froglife 2001).

Significance of effect

3.9.2.99 Following the application of the proposed mitigation measures, the magnitude of impact is deemed to be low beneficial in the long term, and the sensitivity of receptor is considered to be medium. The effect will, therefore, be of **minor beneficial** significance which is not significant in EIA terms

The impact on temporary and permanent loss of habitat on Hazel Dormouse during construction

Magnitude of impact

3.9.2.100 A total of 49 sites with habitat suitable for supporting Hazel Dormouse were surveyed using nest tubes. Of these, 35 sites were located within the Mona Onshore Development Area. Evidence of Hazel Dormouse nests were recorded at three of the 49 sites surveyed. Two nests were identified within the Mona Onshore Development Area and one nest was identified just outside the Mona Onshore Development Area.

3.9.2.101 Hazel Dormouse were recorded along hedgerows bisecting the Mona Onshore Cable Corridor and in hedgerows to the west of the Onshore Substation in autumn, indicating that these habitats may be important for Hazel Dormouse dispersal.

3.9.2.102 Further surveys will be required pre-construction to understand Hazel Dormouse distribution in the landscape, given the mobile nature of the species.

3.9.2.103 Although the removal of hedgerows that could support Hazel Dormouse use would be undertaken under licence from NRW, the removal of hedgerow habitat to lay cables and construct the permanent above ground infrastructure at the Onshore Substation could result in habitat loss and impact Hazel Dormouse.

3.9.2.104 The impact of hedgerow loss is predicted to be of a medium term duration with high recoverability. However, on completion of construction, the temporarily lost hedgerows will be replanted. Therefore, the medium-term impacts on the Hazel Dormouse population would be low.

3.9.2.105 In addition to the replanting of temporarily lost hedgerows a number of embedded measures will provide opportunities for the existing Hazel Dormouse population, which is likely to occur at a low density within the Mona Onshore Development Area based on existing survey data and the Cofnod data records. These include:

- Enhancement of approximately 4.2 km of hedgerow at 10 strategic locations along the Onshore Cable Corridor, to improve connectivity to existing woodland blocks, as shown on Figures 1.1 to 1.3 in the OLEMP (Document Reference: J22)
- Planting of 5.8 ha of broadleaved woodland (as landscape mitigation) providing new habitat
- Improvements to existing woodland near the Onshore Substation to enhance existing habitat.

3.9.2.106 It is considered that these habitat mitigation measures will potentially enable the population of the Hazel Dormouse to increase in numbers. This will partially compensate for some of the temporary loss of 7 km of hedgerow habitat loss, and, potentially, in the long-term will enable the population to extend its range into new areas of suitable woodland habitat, further south and west, thereby creating a more stable population less likely to be affected by any (non-Project related) effects. Therefore, in the short term the magnitude of an impact will be medium adverse and but with the planting and enhancements this magnitude of impact would be **low beneficial** in long term.

Sensitivity of the receptor

3.9.2.107 The desk study confirmed that Wales is on the edge of the distribution range of Hazel Dormouse in Britain, and records indicated that presence in North Wales is infrequent. The number of Hazel Dormouse sites indicates that there is probably a local population present within the Mona Onshore Development that occurs at a low density. No records of Hazel Dormouse have been recorded through the Awel y Môr Onshore Wind Farm surveys in 2021 and only one 'potential nest' was recorded as part of the Burbo Bank Extension Surveys in 2013 at the northern end of the scheme near Rhyl. Therefore, the sensitivity of the receptor is considered to be **medium.**

Significance of effect

3.9.2.108 With the implementation of mitigation, overall the long term it impact is low beneficial and the sensitivity of receptor is considered to be medium. The effect will, therefore, be of **minor beneficial** significance, which is not significant in EIA terms.

The impact of temporary and permanent habitat loss on Otter during construction

Magnitude of impact

3.9.2.109 Four watercourses were identified as having potential to support otter within the Mona Onshore Development Area. Two possible otter holts were identified during surveys. One was located 274 m outside the Mona Onshore Development Area at watercourse 1 and one within the boundary of the Mona Onshore Proposed Development Area at watercourse 3.

3.9.2.110 No otters were directly observed but otter are present in the wider landscape. It is likely there is a very small population present in the landscape.

3.9.2.111 The Mona Offshore Wind Project has made a commitment to use trenchless techniques to cross 7 watercourses for cable installation, which includes both watercourses where possible holts were recorded, watercourses 1 and 3. The watercourses will be dammed, and a pipe flume installed to accommodate the haul road crossing. This will affect a 7m stretch of both watercourses. Pre-construction surveys of all watercourses will be undertaken to ensure that any pipe flumes or

culverts would not impact otters holts. These measures are detailed in the Outline LEMP (Document Reference J22).

3.9.2.112 Pipe flumes will be installed in such a way as to ensure continued good water flow through the pipe even in times of low water, to enable otters to continue to move along the watercourse, unimpeded. As such, no permanent impacts to otter populations are anticipated.

3.9.2.113 Implementation of best-practice methods for pollution prevention, secured via the Outline CoCP (Document Reference J26), would avoid and control all impacts associated with pollution.

3.9.2.114 Given the primary and tertiary embedded mitigation, there would be a **low adverse** magnitude of impact on otter.

Sensitivity of the receptor

3.9.2.115 The desk study confirmed that otter are present across Wales, but the Welsh population has declined by approximately 20% in the past ten years. Otter are sensitive to habitat loss and, and such, the sensitivity of the receptor is considered to be **medium** as only occasional evidence of presence was encountered during the survey.

Significance of effect

3.9.2.116 Overall, the magnitude of impact is deemed to be low, and the sensitivity of receptor is considered to be medium. The effect will, therefore, be of **minor adverse** significance which is not significant in EIA terms.

The impact of temporary and permanent habitat loss on Water vole during construction

Magnitude of impact

3.9.2.117 It is likely there is a small population of Water vole present based on the evidence recorded during the surveys. Four watercourses that were identified as having the potential to support Water voles were surveyed within the Mona Onshore Development Area. One latrine was recorded 310 m outside the Mona Onshore Development Area at watercourse 1 which adjoins the eastern boundary of the Onshore Substation site. Two possible Water vole burrows were recorded 10 m outside of the Mona Onshore Development Area at one location within watercourse 2 alongside the access to the Onshore Substation site. No evidence was recorded in the Mona Onshore Development Area and no Water vole were directly observed.

3.9.2.118 The Mona Offshore Wind Project has made a commitment to use trenchless techniques to cross 7 watercourses for cable installation, which includes both watercourses where possible holts were recorded, watercourses 1 and 2. The watercourses will be dammed, and a pipe flume installed to accommodate the haul road crossing. This will affect a 7m stretch of both watercourses. Pre-construction surveys of all watercourses will be undertaken to ensure that any pipe flumes or culverts would not impact Water vole burrows. These measures are detailed in the Outline LEMP (Document Reference J22). Above-ground vegetative cover along the watercourse channel, margins, and banks within the working area and up to at least 5 m from the working areas would be cleared in order to deter Water voles prior to construction activities commencing.

3.9.2.119 Pipe flumes will be installed in such a way as to ensure continued good water flow through the pipe even in times of low water, to enable Water voles to continue to move

along the watercourse, unimpeded. As such, no permanent impacts to Water vole populations are anticipated.

3.9.2.120 Implementation of best-practice methods for pollution prevention, secured via the Outline CoCP (Document Reference J26), would avoid and control all impacts associated with pollution.

3.9.2.121 No Water voles were found in any of the watercourses along the Mona Onshore Cable Corridor or in any watercourses to be affected by haul road crossings. Given the precautionary commitment to use trenchless techniques at seven watercourses, and the low number of records, the magnitude of impact is considered to be **low**.

Sensitivity of the receptor

3.9.2.122 Water vole is the fastest declining mammal in the UK. The desk study confirmed that Water voles are present across Wales, but the Welsh population has declined by approximately 89% since 1985. Water voles are sensitive to habitat loss and, and such, the sensitivity of the receptor is considered to be **medium** as only occasional evidence of presence was encountered.

Significance of effect

3.9.2.123 Overall, the magnitude of impact is deemed to be low, and the sensitivity of receptor is considered to be medium. The effect will, therefore, be of **minor adverse** significance which is not significant in EIA terms.

The impact of temporary and permanent habitat loss on reptiles during construction

Magnitude of impact

3.9.2.124 Three common species of reptile were recorded within the Mona Onshore Development Area, grass snake, slow worm, and common lizard. Common lizards were recorded along the Mona Onshore Cable Corridor. Grass snake and slow worms were recorded within the Onshore Substation Area.

3.9.2.125 The habitats where reptiles were recorded within the Mona Onshore Development Area would be both permanently lost (substation and permanent access road) and temporarily lost (temporary works areas) due the temporary construction activities including the Onshore Export Cable, 400kV Cable Corridor and Temporary Construction Compounds.

3.9.2.126 Most of the habitat that will be affected comprise intensively managed arable land or intensively grazed grassland, which are sub-optimal habitats for reptiles and reptiles were recorded in low numbers predominately along the margins. This is particularly relevant at the Onshore Substation, which will be permanently affected.

3.9.2.127 A detailed reptile mitigation strategy will be devised, and agreed with NRW, to ensure that no reptiles are impacted by the works as detailed in the Outline LEMP (Document Reference J22).

3.9.2.128 A translocation and displacement exercise would be undertaken to move reptiles from the Mona Onshore Development Area into the newly created receptor area for GCN or into the adjacent retained habitats for reptiles along the Mona Onshore Cable Corridor.

3.9.2.129 The reptiles that will be translocated into the receptor area safeguarded for GCN will comprise a patch work of habitats and habitat features such as artificial refugia that are highly suitable for both GCN and reptiles. The receptor area will also be well

connected via linear habitats including hedgerows to the wider landscape to enable reptiles to move freely and disperse through the landscape. All translocation of reptiles will occur prior to construction works affecting the existing habitat. And the exact location of the translocation will depend on the location and the proximity to the GCN receptor site. Therefore, no permanent impacts are anticipated.

3.9.2.130 The habitats are permanently of low suitability to support reptiles, and this will be replaced by high quality habitat as part of the embedded mitigation, which has the potential to increase the carrying capacity of the reptile population

3.9.2.131 Along the Mona Onshore Export Corridor and 400 kV Grid Connection Cable Corridor, a RAMS approach will be adopted due to the extent and suitability of affected habitats, the risk of encountering high populations of reptiles is expected to be low. This will involve displacing reptiles through vegetation management and moving any reptiles encountered in the working area to a designated location away from construction activities, to avoid any killing or injury.

3.9.2.132 Therefore, in the short term the loss of temporary and permanent habitat for reptiles will have a low to medium impact, given that the receptor area will be enhanced in advance of translocation, so there will be ecological continuity, and low numbers of common species were recorded during the surveys.

3.9.2.133 The habitats are of low suitability to support reptiles, and this will be replaced by high quality habitat as part of the embedded mitigation for GCN, as detailed in the Outline LEMP (Document Reference J22). These embedded mitigation measures also complement reptiles and, therefore, has the potential to increase the carrying capacity of the reptile population. Overall, therefore, the magnitude of impact would be **low beneficial** in long term.

Sensitivity of the receptor

3.9.2.134 The sensitivity of the receptor is **medium.** Several species of reptiles, which are all protected were recorded in the landscape, albeit in small numbers.

Significance of effect

3.9.2.135 Overall, the magnitude of impact is deemed to be low beneficial, and the sensitivity of receptor is considered to be medium. The effect will, therefore, be of **minor beneficial,** which is not significant in EIA terms.

The impact of temporary and permanent habitat loss on terrestrial invertebrates during construction

3.9.2.136 Within the Mona Onshore Development Area, 67 terrestrial invertebrate species were identified which is considered a moderate assemblage. Of the 67 species a total of 10 species of conservation concern were recorded during field surveys, including two SPI species, the grayling butterfly (Endangered) and the small heath butterfly (Vulnerable). The grayling butterfly was recorded within the Mona Onshore Development Area along the coast at Traeth Pensarn. The small heath butterfly was also recorded within the Mona Onshore Development Area, at site 4, near Moelfre.

3.9.2.137 The Nationally Rare robber fly was recorded outside of the Mona Onshore Development Area, near Moelfre. At present, no other records can be found for this species in Wales. Five Nationally Scare species were also recorded, including the seed bug, the ground beetle, the dung beetle, the robber fly, and the planthopper. Of these species, the ground beetle was recorded within the Mona Onshore Development Area, near the Conwy coast. The planthopper and the robber fly were located just

outside of the Mona Onshore Development Area, to the north of the Temporary Construction Compounds, north of the Onshore Substation. All other species were recorded outside of Mona Onshore Development Area.

3.9.2.138 The leaf beetle (Data Deficient) was recorded was recorded outside of the Mona Onshore Development Area, immediately north of the Temporary Construction Compounds, north of the Onshore Substation. The snail *Cernuella virgata* (Data Deficient) was recorded within the Mona Onshore Development Area.

3.9.2.139 The locations of the endangered, vulnerable, and nationally rare species were predominately associated with coastal habitats, the two LWSs, Coed Cord LWS and Coed Y Saeson LWS to the north of the Onshore Substation and also, in the Burbo Bank Onshore Mitigation Extension Mitigation Area which falls within the Mona Onshore Survey Area.

3.9.2.140 Impacts to habitats present within Coed Cord LWS and Coed Y Saeson LWS will be avoided by measures detailed in the Outline LEMP (Document Reference J22) and measures detailed in the Outline CoCP (Document Reference J26).

3.9.2.141 Given proposed improvement works to the woodland habitats to the north of the Onshore Substation, including the removal of trees with significant ash die back, this has the potential to provide habitat for terrestrial invertebrates such as saproxylic invertebrates. Where proposals would necessitate the felling of dead wood, where practicable, the habitat would be soft-felled and relocated to suitable areas outside the works site and within similar environmental conditions to those of their original location. Some dead or rotting wood would be located in areas of damp soils, in order to aid the decaying process. The hedgerow, scrub, ponds, wildflower planting and species rich grassland which will be created around the Onshore Substation will also provide much enhanced habitat for terrestrial invertebrates.

3.9.2.142 Given that the impacts to terrestrial habitats within the Mona Onshore Development Area are limited to sub-optimum habitats and that the locations known to support protected or notable species will be avoided, the magnitude of impact for temporary and permanent habitat loss is **low** adverse**.**

Sensitivity of the receptor

3.9.2.143 Given the presence of 10 species of conservation concern, the sensitivity of the receptor can be considered to be **medium.**

Significance of effect

3.9.2.144 Overall, the magnitude of impact is deemed to be low adverse, and the sensitivity of receptor is considered to be medium. The significance of effect will therefore be of **minor adverse** which is not significant in EIA terms.

The impact on temporary and permanent habitat loss on aquatic invertebrates during construction

Magnitude of impact

3.9.2.145 No protected or notable aquatic invertebrate species were identified during the desk study. The extended phase 1 habitat survey data identified 20 waterbodies and six watercourses that could be suitable habitat to support aquatic invertebrates. These were assessed by competent aquatic invertebrate survey specialists and scoped in or out for more detailed rapid assessment surveys.

3.9.2.146 Of the 20 waterbodies, four were located within the Mona Onshore Development Area, east of Onshore Substation and 16 were outside the Mona Onshore Development Area. Four of the six ponds subject to rapid assessment surveys were identified as supporting a diverse aquatic invertebrate assemblage (more than 10 families).

3.9.2.147 Three of the six watercourse survey locations were located within the Mona Onshore Development Area, two within the Permanent Access Route and one to the southwest of Rhyd-Y-Foel. The remaining three survey locations were outside the Mona Onshore Development Area. No protected or notable species were identified. None of the watercourses were suitable for white-clawed crayfish. The Mona Offshore Wind Project has made a commitment to use trenchless techniques to cross seven of the ordinary watercourses where the Onshore Cable Route traverse them. At two crossing points, open trenching will be used for cable installation.

3.9.2.148 The haul road and a temporary access road in the Onshore Substation site will traverse all of the watercourses with pipe flumes used to accommodate the haul road. At each watercourse crossing the pipe flume installation will entail the damming of a 7m stretch of the water course. The length of each water course directly affected will be a small extent of the total watercourse length but will entail temporary damage of bank habitat within the dammed section.

3.9.2.149 Best practice measures will be implemented during pipe flume installation and removal during construction, as outlined in the CoCP (Document Reference J26). This will minimise downstream impacts that could result from silt or soil entering the water course. Therefore, impacts on water quality will be minimal and short-term.

3.9.2.150 The impact from the temporary loss of aquatic habitats to support aquatic invertebrates is predicted to be low. The magnitude of impact is therefore, considered to be **low**.

Sensitivity of the receptor

3.9.2.151 Given the lack of diversity of aquatic invertebrate, the sensitivity of the receptor can be considered to be **low.**

Significance of effect

3.9.2.152 Overall, the magnitude of impact is deemed to be low, and the sensitivity of receptor is considered to be low. The effect will, therefore, be of **negligible** significance which is not significant in EIA terms.

Summary of temporary and permanent habitat loss during construction

3.9.2.153 Table 3.24 sets out a summary of the temporary and permanent habit loss during construction.

Table 3.24: Summary of the significance of effects of temporary and permanent habitat loss on IEFs during construction.

IEFS	Magnitude of impact	Sensitivity of receptor	Significance of effect
Llanddulas Limestone and Gwrych Castle Wood SSSI	No change	High	**No change**, which is not significant in EIA terms
Traeth Pensarn SSSI	No change	High	**No change**, which is not significant in EIA terms.

IEFS	Magnitude of impact	Sensitivity of receptor	Significance of effect
Coed y Gopa SSSI	No change	High	**No change** which is not significant in EIA terms.
Coedydd ac Ogofau Elwy a Meichion SSSI	No change	High	**No change**, which is not significant in EIA terms.
Ancient Woodland	No change	High	**No change**, which is not significant in EIA terms
Local Wildlife Sites: Coed Cord and Coed y Season	No change	High	**No change**, which is not significant in EIA terms.
Broadleaved Parkland/Scattered Trees	Low	High	**Minor adverse**, which is not significant in EIA terms.
Semi-natural and plantation woodland	Low	Medium	**Minor adverse**, which is not significant in EIA terms
Calcareous Grassland	No change	Medium	**No change**, which is not significant in EIA terms
Hedgerows	Low	Medium	**Minor beneficial**, which is not significant in EIA terms
Rivers	Low	Medium	**Minor adverse**, which is not significant in EIA terms.
Bats	Low	High	**Minor adverse**, which is not significant in EIA terms.
Badger	Low	Medium	**Minor adverse**, which is not significant in EIA terms.
European eel	Low	High	**Minor adverse**, which is not significant in EIA terms.
Great Crested Newts	Low	Medium	**Minor beneficial**, which is not significant in EIA terms.
Hazel Dormouse	Low	Medium	**Minor beneficial**, which is not significant in EIA terms.
Otter	Low	Medium	**Minor adverse**, which is not significant in EIA terms.
Water vole	Low	Medium	**Minor adverse,** which is not significant in EIA terms.
Reptile - Common Lizard, Slow worm and Grass Snake	Low	Medium	**Minor beneficial**, which is not significant in EIA terms.
Terrestrial Invertebrates	Low	Medium	**Minor adverse**, which is not significant in EIA terms.
Aquatic invertebrates	Low	Low	**Negligible,** which is not significant in EIA terms.

The impact of temporary and permanent habitat loss on all IEFs during decommissioning

Magnitude of impact

3.9.2.154 As the onshore export cables are located away from the coastal vegetated habitat, there will be no temporary or permanent habitat loss at the intertidal area during decommissioning. The Mona Onshore Cable Corridor and the 400 kV Grid Connection Cable Corridor will remain in place, including at the crossing of ditches and streams and underneath sensitive habitats such as ancient woodlands and important hedgerows. Activity will be localised to the removal of link boxes which may require very localised sections of hedgerow to be removed during the decommissioning. This will be kept to a minimum where practicable. The Onshore Substation and access road will be removed.

3.9.2.155 The MDS includes the maximum footprint and therefore the largest possible area of habitat permanent or temporary habitat loss to ecological receptors. The magnitude is therefore, considered to be **negligible**.

Sensitivity of receptors

3.9.2.156 The receptors have a medium to high conservation importance, medium to high vulnerability to impact and a medium to low/no recoverability. The sensitivity of the receptor is therefore, considered to be **low to high**

Significance of the effect

3.9.2.157 Overall, the magnitude of impact is deemed to be negligible, and the sensitivity of the receptor is considered to be low to high. The effect will, therefore, be of **negligible** to **minor adverse** significance, which is not significant in EIA terms.

3.9.3 The impact of habitat disturbance

3.9.3.1 Construction, operations, and maintenance and decommissioning of the Mona Onshore Development Area may result in the disturbance of habitat (e.g. movement, noise, light spill, vibration), which may support protected or notable species. The MDS is represented by the maximum number of vehicle (including heavy machinery) and personnel that could cause the greatest impact and is summarised in Table 3.21.

3.9.3.2 For some IEFs, such as mammals, the impact of habitat disturbance has been considered to be the disturbance of habitats used by mammals throughout their daily cycle (i.e. roosting, resting and foraging etc) and life cycle (i.e. breeding, and non-breeding and hibernation). This disturbance impact may arise from noise, visual and vibration stimuli which are considered in the below assessment.

3.9.3.3 The assessment of effects during construction is provided below per IEFs. This is followed by the assessment for operation and maintenance and decommissioning.

The impact of habitat disturbance on Llanddulas Limestone and Gwrych Castle Wood SSSI during construction

Magnitude of impact

3.9.3.4 Direct disturbance effects on Llanddulas Limestone and Gwrych Castle Wood SSSI will be avoided through the use of trenchless techniques. There is the potential for indirect disturbance as a consequence of trenchless techniques under Gwrych Castle Wood SSSI within the Mona Onshore Development Area. There will be dust creation

associated with trenchless techniques and receptor sites outside Gwrych Castle Wood SSSI.

3.9.3.5 There will be tree protection buffers of 15 m, in line with best practice guidance, installed which will limit disturbance activity at Gwrych Castle Wood SSSI ancient woodland edges, as detailed in Outline CoCP (Document Reference J26). There will also be measures in place to manage dust from construction activities. These measures will be secured via the Outline CoCP (Document Reference J26), which will be secured as a requirement of the DCO.

3.9.3.6 The impact would therefore be predicted to be of local spatial extent, short term duration, intermittent and would have reversibility. It is predicted that the impact will affect the receptor indirectly. The magnitude of impact is, therefore, considered to be **negligible.**

Sensitivity of the receptor

3.9.3.7 Llanddulas Limestone and Gwrych Castle Wood SSSI has eight qualifying features including limestone grassland, dry heath, Semi-natural broadleaved woodland, lesser horseshoe bat hibernacula (caves), silver studded-blue butterfly, rare butterflies, moths, and a fly (invertebrate assemblage), rare lower plants, mosses (bryophyte assemblage) lichen and rare plants (vascular plant assemblage). This ecosystem takes hundreds of years to establish and, the combination of the eight qualifying features consider the receptor to be of high value. The sensitivity of the receptor is therefore, considered to be **high.**

Significance of effect

3.9.3.8 Overall, the magnitude of the impact is deemed to be negligible, and the sensitivity of the receptor is high. The effect will, therefore, be **minor adverse**, which is not significant in EIA terms.

The impact of habitat disturbance on Traeth Pensarn SSSI during construction

Magnitude of impact

3.9.3.9 While access to the beach is required for construction support works for the trenchless installation of the cables, the Onshore Development Area has been designed to avoid the qualifying feature of the SSSI (coastal vegetated shingle). Therefore, will be no requirement to access the vegetated shingle, which is the qualifying feature of the SSSI, will not be impacted by disturbance.

3.9.3.10 There will be occasional low level disturbance impacts as a consequence of the temporary access to the beach for construction support works within the extent of the SSSI. The impact is predicted to be of local spatial extent, short term duration, intermittent and high reversibility. It is predicted that the impact will affect the SSSI receptor directly but no impacts are predicted to the qualifying feature of the SSSI.

3.9.3.11 The magnitude of impact is therefore, considered to be **low**

Sensitivity of the receptor

3.9.3.12 Traeth Pensarn SSSI is designated for the presence of coastal vegetated shingle resource which is a threatened habitat because of rising sea levels, coastal erosion, and climate change. Vegetated shingle beaches are relatively rare habitats. Traeth Pensarn represents more than 10% of the total area of this habitat in Wales. As such the sensitivity of the receptor can be considered to be **high.**

Significance of effect

3.9.3.13 Overall, the magnitude of the impact is deemed to be low, and the sensitivity of the receptor is considered to be high. The effect will, therefore, be **minor adverse**, which is not significant in EIA terms.

The impact of habitat disturbance on Coed y Gopa SSSI during construction

Magnitude of impact

3.9.3.14 The physical separation of the Coed y Gopa SSSI from the Mona Onshore Development Area means there would be no direct disturbance from construction activities. The temporary and permanent loss of habitats within the Mona Onshore Development Area could disrupt and disturb bats which roost within the Coed y Gopa SSSI

3.9.3.15 The disturbance impacts because of construction activities may disturb bats utilising roosting, commuting and foraging habitats within the Mona Development Area and Coed y Gopa SSSI. The disturbance impacts are predicted to be of local spatial extent, specifically around the Onshore Substation, short term duration, and reversible. It is predicted that the impact will affect the receptor indirectly, as bats will have the ability to use retained tree roosts, hedgerows, and foraging areas unaffected by construction activities in the wider landscape, as detailed in Volume 7, Annex 3.9: Bat roost survey technical report of the Environmental Statement and Volume 7, Annex 3.10: Bat Activity survey technical report of the Environmental Statement.

3.9.3.16 The magnitude of the direct disturbance impacts on Coed y Gopa SSSI is therefore predicted to be none but there is predicted to be a **low** magnitude of impact of disturbance on the qualifying feature, lesser horseshoe bats, given the proximity of the site and the mobile nature bats.

Sensitivity of the receptor

3.9.3.17 Coed y Gopa is designated mainly for its assemblage of roosting bats including lesser horseshoe bat which is of national value. Coed y Gopa is therefore considered to be of **high** sensitivity.

Significance of effect

3.9.3.18 Given the magnitude of impact is low, the sensitivity of the receptor is high, therefore, the significance of effect is **minor adverse**, which is not significant in EIA terms.

The impact of habitat disturbance on Coedydd ac Ogofau Elwy a Meichion SSSI during construction

Magnitude of impact

3.9.3.19 The physical separation of Coedydd ac Ogofau Elwy a Meichion SSSI from the Mona Onshore Development Area means there would be no direct disturbance from construction activities.

3.9.3.20 The disturbance impacts because of construction activities may disturb bats utilising roosting, commuting and foraging habitats within the Mona Development Area and Coedydd ac Ogofau Elwy a Meichion SSSI. The disturbance impacts are predicted to be of local spatial extent, specifically around the Onshore Substation, short term duration, and reversible. It is predicted that the impact will affect the receptor indirectly, as bats will have the ability to use retained tree roosts, hedgerows, and foraging areas

unaffected by construction activities in the wider landscape, as detailed in Volume 7, Annex 3.9: Bat roost survey technical report of the Environmental Statement and Volume 7, Annex 3.10: Bat Activity survey technical report of the Environmental Statement.

3.9.3.21 The magnitude of the direct disturbance impacts on Coedydd ac Ogofau Elwy a Meichion SSSI is therefore predicted to be none but there is predicted to be a **low** magnitude of impact of disturbance, given the proximity of the site and the mobile nature bats.

Sensitivity of the receptor

3.9.3.22 Coedydd ac Ogofau Elwy a Meichion SSSI is designated for semi-natural broadleaved woodland including an assemblage of rare flowering plants and scarce bryophytes which will to be sensitive to environmental changes. The site is also designated for an assemblage of roosting bats. Given the range and type of habitats present, Coedydd ac Ogofau Elwy a Meichion SSSI is considered to have **high** sensitivity.

Significance of effect

3.9.3.23 Overall, the magnitude of impact is predicted to be low while the sensitivity of the receptors is high. The significance of effect is therefore **minor adverse**, which is not significant in EIA terms.

The impact of habitat disturbance on ancient woodland during construction

Magnitude of impact

3.9.3.24 There is the potential for disturbance (e.g. dust and noise) to ancient woodland parcels from the construction activities along the Mona Onshore Cable Corridor adjacent to Coed Nant Meifod, Coed Carreg-Dayydd and Coed y Ddol. To mitigate this impact, tree protection buffers of 15 m will be installed, in line with guidance, which will limit disturbance activity at the ancient woodland edges, as detailed in the Outline Arboricultrre Method Statment (document reference J26.18), which forms part of the wider Outline CoCP (document reference J26). In addition, the Outline CoCP also include measures to control dust and noise emissions during consutrction of the Monas Offshore Wind Project.

3.9.3.25 The impact would therefore be predicted to be of local spatial extent, short term duration, intermittent and would be reversible. It is predicted that the impact will affect the receptor indirectly. The magnitude of impact is, therefore, considered to be **negligible**.

Sensitivity of the receptor

3.9.3.26 Ancient woodland takes hundreds of years to establish and is defined as an irreplaceable habitat. Ancient woodland is deemed to be of high value and has none or very low recoverability. The sensitivity of the receptor is therefore, considered to be **high.**

Significance of effect

3.9.3.27 Overall, the magnitude of the impact is deemed to be negligible, and the sensitivity of the receptor is considered to be high. The effect will, therefore, be **minor adverse**, which is not significant in EIA terms.

The impact of habitat disturbance on Local Wildlife Sites: Coed Cord and Coed y Season during construction

Magnitude of impact

3.9.3.28 There are two LWS, partially within the Mona Onshore Development Area, Coed Cord LWS and Coed y Saeson LWS, which are both ancient woodland (Data Map Wales 2024).

3.9.3.29 The permanent access road from the Glascoed Road to the Onshore Substation, will run adjacent to these two LWSs and it is likely there will be continuous disturbance activity from dust, construction noise and vehicle movements along the permanent access road during construction. However, given the proximity of the LWS and the 33 month period of construction at the Onshore Substation, it is considered that, in the absence of mitigation the magnitude of disturbance impact will medium.

3.9.3.30 The arboriculture assessment Volume 7, Annex 6.6: Tree survey and Arboricultural Impact Assessment of the Environmental Statement has confirmed that an RPA of 15 m can be maintained to protect the woodlands during the construction of the permanent access road. These measures will be secured via the Outline Arboriculture Method Statement (Document Reference J26.18), which forms part of the wider Outline CoCP (Document Reference J26) and will be secured as a requirement of the DCO.

3.9.3.31 Mitigation measures will be secured to control dust and noise impacts in accordance with the Outline CoCP (Document Reference J26) as a requirement of the DCO.

3.9.3.32 With the implementation of appropriate mitigation measures, the impact magnitude of habitat disturbance on Coed Cord and Coed y Saeson is therefore predicted to be **low.**

Sensitivity of the receptor

3.9.3.33 The sensitivity of the two woodland LWSs Coed Cord, and Coed y Saeson is considered to be **high** as they are both ancient woodland hat takes hundreds of years to establish and is defined as an irreplaceable habitat.

Significance of effect

3.9.3.34 With the implementation measures, overall, the magnitude of the impact of long term temporary indirect disturbance is deemed to be low, the sensitivity of the receptor is considered to be high. The effect will, therefore, be **minor adverse**, which is not significant in EIA terms.

The impact of habitat disturbance on broadleaved trees (parkland) and scattered trees during construction

Magnitude of impact

3.9.3.35 There will be indirect disturbance of retained mature broadleaved standards, such as dust, which will be minimised through the installation of tree protection fencing around the RPAs and boundaries during the construction phases, as detailed in section 3.8 and secured via the Outline LEMP (Document Reference J22).

3.9.3.36 The disturbance impacts within the Mona Onshore Development Area will be for up to 33 months. However, mititgation measures set out in the Outline Aboriculure Method Statement (Document Reference J26.18) and wider Outline CoCP (Document Reference J26) would reduce these impacts via appropriate management and monitoring of retained trees.

3.9.3.37 With the embedded mitigation measures the magnitude of disturbance impact is therefore, considered to be **low.**

Sensitivity of the receptor

3.9.3.38 Matured broadleaved trees play an important role in combatting climate change and help prevent water pollution and soil erosion. They also provide potential breeding habitat for species such as bats, birds, and Hazel Dormouse. Therefore, the sensitivity of the receptor is considered to be **high**.

Significance of effect

Overall, the magnitude of disturbance impact is deemed to be low, and the sensitivity of receptor is considered to be high. The effect will, therefore, be of **minor adverse** significance which is not significant in EIA terms.

The impact of habitat disturbance on semi-natural and plantation woodland during construction.

Magnitude of impact

3.9.3.39 A block of semi-natural and plantation woodland within the Mona Onshore Development Area, to the north of the Onshore Substation will be directly disturbed during construction. The woodland is referred to as 'block 11' in the Outline LEMP (Document Reference J22 - Figure 2.4: Illustrative landscape and ecology strategy plan).

3.9.3.40 There will be direct disturbance impacts as a consequence of construction activities for the permanent access road. The retained habitats during construction will be protected from disturbance with measures set out in Outline CoCP (Document Reference J26).

3.9.3.41 There will also be direct disturbance activities from the planned felling of trees with ash die back and, also, non-native conifers to encourage natural re-generation as part of the long term biodiversity improvements and landscape connectivity strategy as detailed in the Outline LEMP (Document Reference J22). NRW Forestry Advisors recommend removing the ash belt in a single operation as this will reduce seed impacts from the ash, particularly as the ash trees when effected by ash dieback, as they produce greater quantities of seed due to their survival strategy. There is highly likely a large ash seed bank already to be found in these areas, particularly the ash belt.

3.9.3.42 It will be important to monitor the natural re-generation to ascertain if an alternative strategy such as woodland planting would be more effective than natural re-generation.

3.9.3.43 Therefore, as the removal of the semi-natural planation will take place in a single operation, the disturbance impact is predicted to be of local spatial extent, short/medium term duration and intermittent. It is predicted that the impact will affect the receptor directly. The magnitude is therefore, considered to be **low.**

Sensitivity of the receptor

3.9.3.44 The woodland is dominated by ash trees interspersed with non-native coniferous trees. Mature broadleaved oak trees are present in a cluster oak along the existing access track to the south-east. Many of the ash trees that have been planted and are in a significant stage of decline due to ash die back disease. However, woodland plays an important role in combatting climate change and helps prevent water pollution and soil

erosion. Woodland also provides breeding and foraging habitat for species such as bats, birds, and Hazel Dormouse. Due to, the quality of woodland given non-native species and re-planted ash with evidence of as die back, the sensitivity of the receptor is considered to be **medium.**

Significance of effect

3.9.3.45 With the implementation of the mitigation, the magnitude of impact is low, and the sensitivity of receptor is medium. The effect will, therefore, be of **minor adverse** significance, which is not significant in EIA terms.

The impact of habitat disturbance on calcareous grassland during construction

Magnitude of impact

3.9.3.46 There is the potential for indirect disturbance as a consequence of trenchless techniques under the calcareous grassland within the Mona Onshore Development Area. There will be compounds associated with trenchless techniques at the entry and exit pits, which could cause some dust deposition, but the entry and exit pits will be located outside the calcareous grassland habitat. Given the small extent of calcareous grassland in Section 2, which lies partially within the Mona Onshore Development Area and the avoidance measures embedded including the use of an existing access haul road to the west of the Onshore Export Cable Corridor, the magnitude of indirect disturbance is considered to be **low.**

Sensitivity of the receptor

3.9.3.47 Calcareous grasslands are considered in general to be semi-natural habitats, because without human management through grazing, cutting, or burning, they would eventually turn into scrub and woodland through natural succession (Dengler *et a*l., 2014; Poschlod & Wallis de Vries, 2002). While it is limited in extent within the Mona Onshore Development Area, this habitat is uncommon particularly in Wales National Archives (2011) and, as such, is considered to be **medium** sensitivity.

Significance of effect

3.9.3.48 Overall, the magnitude of the impact is deemed to be low, and the sensitivity of the receptor is considered to be medium. The effect will, therefore, be **minor adverse** which is not significant in EIA terms.

The impact of habitat disturbance on hedgerows during construction

Magnitude of impact

3.9.3.49 There will be indirect habitat disturbance of adjacent retained hedgerows where hedgerow removal is required to install the onshore infrastructure within the Mona Onshore Development Area.

3.9.3.50 The retained hedgerows will be protected, managed, and monitored during the construction process to ensure that no permanent impacts are generated from the temporary disturbance impacts, but there may be temporary impacts from dust deposition. This protection, management and monitoring of habitat disturbance on retained hedgerows is detailed in the Outline LEMP (Document Reference J22) and further referenced in the Outline CoCP (Document Reference J26).

3.9.3.51 Temporary hedgerows will be used to bolster hedgerow connectivity around the perimeter of the Onshore Substation construction area, as required. These measures

are described further below. The magnitude of impact is therefore, considered to be **low.**

Sensitivity of the receptor

3.9.3.52 Hedgerows provide important connectivity for a species such as Hazel Dormouse and bats but would have the ability to recover from short term disturbance related impacts following a planting, management and monitoring regime. Therefore, the sensitivity of the receptor is considered to be **medium.**

Significance of effect

3.9.3.53 Overall, the magnitude of impact is deemed to be low, and the sensitivity of receptor is considered to be medium. The effect will, therefore, be of **minor adverse** significance which is not significant in EIA terms.

The impact of habitat disturbance on rivers and ordinary watercourses during construction

Magnitude of impact

3.9.3.54 There are 10 ordinary watercourses within the Mona Onshore Development Area. Nine ordinary watercourses will be crossed to enable the installation of the Mona Onshore Cable Corridor and the 400 kV Grid Connection Cable Corridor.

3.9.3.55 The Mona Offshore Wind Project has made a commitment to use trenchless techniques to cross seven of these ordinary watercourses (see Volume 5, Annex 4.3 Onshore Crossing Schedule of the Environmental Statement). The other two ordinary watercourses will be crossed using open cut trenching. At these locations culverts will be used to install the cables. These culverts will be retained throughout the project lifecycle and decommissioning, but the bankside vegetation will be re-instated after installation, as detailed the Outline LEMP (Document Reference J22).

3.9.3.56 The haul road and a temporary access road at the Onshore Substation site will traverse the watercourses in the Mona Onshore Development Area. At each watercourse crossing, pipe flumes will be used to accommodate the haul road. The pipe flume installation will entail the damming of a 7 m stretch of the watercourse. The length of each water course directly affected will be a small extent of the total watercourse length but will entail temporary damage of bank habitat within the dammed section. The pipe flumes will be removed along the haul road after the construction activities have been completed and the bank side vegetation to be subsequently re-instated as required.

3.9.3.57 Best practice measures will be implemented during pipe flume and culvert installation and removal during construction, as outlined in the Outline CoCP (Document Reference J26). This will minimise downstream impacts that could result from silt or soil entering the water course. Therefore, impacts on water quality will be minimal and short-term.

3.9.3.58 This activity will cause temporary disturbance to 63 m of watercourse as a consequence of the pipe flume installation, to enable the haul road to cross the nine watercourses. There will be further damage and disturbance to the watercourses where the Onshore Export Cables need to be installed via trenching techniques, but these damage and disturbance impacts are anticipated to be temporary, short term duration and reversible. The magnitude of impact is therefore, considered to be **low.**

3.9.3.59 An ordinary watercourse is located directly to the east of the Onshore Substation and flows from the southwest to the northeast. The construction of the Onshore Substation

will require the diversion of a section of the watercourse around the perimeter of the substation (see the Outline Operational Drainage Management Strategy (Document Reference J27)).

3.9.3.60 This will effectively result in the medium term disturbance of approximately 400 m of stream habitat, while the stream is re-aligned. There will be result in temporary disturbance to bankside habitat and any flora and fauna using this watercourse. The realigned stream will be designed and created to provide channel and bankside habitats of at least equal ecological value to the original stream.

3.9.3.61 The impact is therefore predicted to be of local spatial extent, short term duration, and reversible. It is predicted that the impact will affect the receptor directly but given the short lengths of watercourse affected by the haul road crossings, and the reinstatement of the realigned watercourse, the magnitude of the impact would be **low.**

Sensitivity of the receptor

3.9.3.62 The potential value of the onsite watercourses is enhanced by virtue of the fact they have hydrological connections to larger main rivers and thus form part of these catchments. As such the sensitivity of the receptor can be considered to be **medium.**

Significance of effect

3.9.3.63 Overall, the magnitude of the impact is deemed to be low, and the sensitivity of the receptor is considered to be medium. The effect will, therefore, be **minor adverse**, which is not significant in EIA terms.

The impact of habitat disturbance on Bats during construction

Magnitude of impact

3.9.3.64 There will be a temporary disturbance to bats, roosting, commuting, and foraging during construction phase of the Mona Onshore Development Area, which has the potential to cause temporary disturbance impacts to the bat assemblage.

3.9.3.65 Bats roosting in proximity Mona Onshore Cable Corridor and 400 kV Grid Connection Cable Corridor may be disturbed by construction related activities such as noise during trenching to install the cables.

3.9.3.66 The impact of habitat disturbance along the Mona Onshore Cable Corridor and 400 kV Grid Connection Cable Corridor is predicted to be of local spatial extent, short/medium term duration, intermittent and high reversibility. It is predicted that the impact will affect the receptor indirectly. The magnitude is therefore, considered to be **negligible**.

3.9.3.67 There may be longer term also be disturbance to bats roosting in proximity to the Onshore Substation as a consequence of light, noise, and vibration. However, measures to reduce disturbance activities, such as light pollution and noise are detailed in the Outline CoCP (Document Reference J26) and secured as a requirement of the DCO.

3.9.3.68 The impact is predicted to be short/medium term duration, intermittent and high reversibility as bats can move roost, commuting routes and foraging areas, given the extent of tree roost resource in the wider landscape. It is predicted that the impact will affect the receptor directly. The magnitude is therefore, considered to be **low**

Sensitivity of the receptor

3.9.3.69 The presence of 10 species of bat is not significantly high given the extent of the survey area, and most of the bat activity recorded was of common and widespread species.

However, the significance of the Mona Onshore Development Area for lesser horseshoe bat (national value) and Leisler's bat (district value) along with the overall assemblage of bats across the extent of the Mona Onshore Development Area, means that the Mona Onshore Development Area is considered to **high** sensitivity for bats.

Significance of effect

3.9.3.70 Overall, the highest magnitude of impact is deemed to be low**,** and the sensitivity of receptor is considered to be high. The effect will, therefore, be of **minor adverse** significance, which is not significant in EIA terms.

The impact of habitat disturbance on Badgers during construction

Magnitude of impact

3.9.3.71 There will be a temporary disturbance to badgers during construction within the Mona Onshore Development Area. The disturbance impact is predicted to be short term within the Mona Onshore Cable Corridor and 400 kV Grid Connection Cable Corridor, and the habitats will not be impacted by disturbance in the long term.

3.9.3.72 RAMs will be implemented during construction, in line with best practice (Badger Trust, 2023) to ensure disturbance to badgers is minimised such as avoiding disturbance, including noise and vibration near active setts, keeping heavy machinery/excavation work away from setts, and avoiding activity between dusk and dawn when badgers are most active in addition to measures such as placing wooden boards over excavated holes, locking away chemicals at night and removing food waste from site at the end of each day to avoid attracting badgers not the construction areas.

3.9.3.73 This protection, management and monitoring of habitat disturbance is detailed in the Outline LEMP (Document Reference J22) and further referenced in the Outline CoCP (Document Reference J26) both which will be secure as a requirement of the DCO.

3.9.3.74 Given the embedded mitigation measures, the magnitude of impact is considered to be **low.**

Sensitivity of the receptor

3.9.3.75 The number of badger setts identified throughout the area indicates that they are extremely widespread. However, in the absence of mitigation badgers are very susceptible to the impacts of construction. Therefore, the sensitivity of the receptor is considered to be **medium**.

Significance of effect

3.9.3.76 Overall, the magnitude of impact is deemed to be low, and the sensitivity of receptor is considered to be medium. The effect will, therefore, be of **minor adverse** significance which is not significant in EIA terms.

The impact of habitat disturbance on European eel during construction

Magnitude of impact

3.9.3.77 The field survey found European Eel in one watercourse assessed as being suitable to support fish/eels. The watercourse flows through Section 2 at Nant Fawr. The Mona Offshore Wind Project has made a commitment to use trenchless techniques to cross this watercourse for cable installation. The watercourse will be dammed, and a pipe flume installed to accommodate the haul road crossing. This will affect a 7 m stretch of the watercourse, which will be limit disturbance to European eels.

3.9.3.78 Pipe flumes will be installed in such a way as to ensure continued good water flow through the pipe even in times of low water, to enable eels to continue to move along the watercourse. Therefore, the disturbance impacts are only likely to occur during the installation and removal of the pipe flumes.

3.9.3.79 The disturbance impact is predicted to be of local spatial extent, short term duration, intermittent and high reversibility. It is predicted that the impact will affect the receptor indirectly. The magnitude is therefore, considered to be negligible.

3.9.3.80 Should pre-construction surveys find that European eels are present in other watercourses, trenching work at smaller water courses and ditches will not take place at night and will include measures such that eels cannot become trapped within the work area, such as ramped ends. As such, no permanent disturbance impacts to eel populations is anticipated.

3.9.3.81 As a precautionary approach, given the primary and tertiary embedded mitigation, there would be a **low** magnitude of impact relating to disturbance on European Eel.

Sensitivity of the receptor

3.9.3.82 Given the critically endangered status of European Eel and the corresponding district value of the receptor, the sensitivity of the receptor can be considered to be **high.**

Significance of effect

3.9.3.83 Overall, the magnitude of disturbance impact is deemed to be low, and the sensitivity of receptor is considered to be high. The effect will, therefore, be of **minor adverse** significance, which is not significant in EIA terms.

The impact of habitat disturbance on Great Crested Newts during construction

Magnitude of impact

3.9.3.84 Disturbance of GCN will occur as a consequence of habitats temporarily damaged through temporary works within the Onshore Substation Zone (construction/earthworks/mitigation creation areas) is approximately 12.9 ha.

3.9.3.85 As a consequence of the construction activities which will include permanent terrestrial habitat loss, temporary terrestrial habitat loss, and both permanent and temporary pond loss, these activities are likely to cause disturbance to individual GCN which are part of the St Asaph GCN metapopulation of national importance.

3.9.3.86 It has been proposed, and agreed in principle with NRW at the EWG6 meeting that a capture and exclusion from the Onshore Substation Area will be undertaken to remove GCN and translocate them to the adjacent receptor site (which is a total area of 9 ha just outside the construction area to the east of the Onshore Substation) which will be enhanced prior to the translocation commencing. The receptor area will not be fenced in and translocated GCN will be able to disperse to other habitats within the St Asaph metapopulation range.

3.9.3.87 The translocation of GCN will also cause disturbance to individual GCN but it is considered that overall, the translocation will reduce the overall disturbance impacts, in advance of construction works commencing within the Onshore Substation Area. Therefore, the impact is predicted to be of local spatial extent, short/medium term duration, intermittent and high reversibility. It is predicted that with the embedded mitigation, the impact will affect the receptor directly. The magnitude is therefore, considered to be low**.**

3.9.3.88 Along the Mona Onshore Cable Corridor, an approach using Reasonable Avoidance Measures (RAMS) will be adopted, primarily displacement through vegetation removal prior ground works, due to the extent and distance of the affected habitats from ponds and optimal GCN terrestrial habitats. As such, the risk of GCN being encountered is expected to be lower, compared to the areas around the Onshore Substation. Individual GCN will be disturbed by handing any GCN encountered in the working area and moving them to a designated area of safety as specified in the NRW licence, along the Mona Onshore Cable Corridor. It is considered that, in the absence of mitigation, that this magnitude of disturbance would be medium.

3.9.3.89 A detailed GCN mitigation strategy has been prepared as an appendix to the Outline LEMP (Document Reference J22 appendix D) outlining the approach to GCN mitigation. All works affecting GCN will be undertaken under a NRW mitigation licence to ensure no GCN are harmed or disturbed by the works.

3.9.3.90 Therefore, with the mitigation of the receptor site and translocation and displacement the medium-term impacts on GCN disturbance the effects on the GCN population would be reduced to a **low** magnitude of impact.

Sensitivity of the receptor

3.9.3.91 It is considered that the sensitivity of the receptor is **medium** as GCN is medium conversation importance and has medium ability to recover.

Significance of effect

3.9.3.92 Overall, the magnitude of impact is deemed to be low, and the sensitivity of receptor is considered to be medium. The disturbance effect on GCN will, therefore, be of **minor adverse** significance, which is not significant in EIA terms.

The impact of habitat disturbance on Hazel Dormouse during construction

Magnitude of impact

3.9.3.93 The temporary severance of hedgerows of value to Hazel Dormice will take place during the construction phase, and this will likely cause habitat disturbance to the Hazel Dormouse populations as it may disturb their movements and foraging abilities.

3.9.3.94 Prior to the commencement of works, an update nest tube survey for dormice would be undertaken in accordance with guidelines published by Bright et al, 2006. The survey would focus on hedgerows that will require clearance, as well as hedgerows adjacent to, or connecting to woodland (i.e. woodland parcels located within 100 m of working areas) to ensure that all potential disturbance impacts are identified, immediately prior to works commencing to allow for an adaptation to mitigation measures, as detailed in the Outline LEMP (Document Reference J22).

3.9.3.95 Embedded measures to minimise disturbance to Hazel Dormouse, such as noise and light spillage, and the use of temporary hedgerows to maintain habitat connectivity will be implemented via the Outline LEMP (Document Reference J22). There will be no night-time working during periods where Hazel Dormice are active.

3.9.3.96 Given the relatively limited extent of disturbance, the likely low population present, the availability of retained habitats within the landscape and the embedded mitigation, the magnitude of disturbance is **low.**

Sensitivity of the receptor

3.9.3.97 The desk study confirmed that Wales is on the edge of the distribution range of Hazel Dormouse in Britain, and records indicated that presence in North Wales is infrequent. The number of Hazel Dormouse sites indicates that there is probably a local population present within the Mona Onshore Development. The sensitivity of the receptor is **medium.**

Significance of effect

3.9.3.98 Overall, the magnitude of impact is deemed to be low and the sensitivity of receptor is considered to be medium. The effect will, therefore, be of **minor adverse** significance, which is not significant in EIA terms.

The impact of habitat disturbance on Otter during construction

Magnitude of impact

3.9.3.99 During construction there is the potential for direct and indirect disturbance to otter. The disturbance impact is predicted to be short term within the Mona Onshore Cable Corridor and the habitats of value to otters will not be impacted by disturbance in the long term.

3.9.3.100 The Mona Offshore Wind Project has made a commitment to use trenchless techniques to cross 7 watercourses, for cable installation, which will include watercourses 1 and 3, which is where possible otter holts were recorded. The watercourses will be dammed, and a pipe flume installed to accommodate the haul road crossing. This will affect a 7 m stretch of both watercourses. Pre-construction surveys of all watercourses will be undertaken to ensure that any pipe flumes or culverts would not impact Otter holts as detailed in the Outline LEMP (Document Reference J22).

3.9.3.101 Pipe flumes will be installed in such a way as to ensure continued good water flow through the pipe even in times of low water, to enable otters to continue to move along the watercourse, unimpeded. As such, no permanent disturbance impacts to otter populations are anticipated.

3.9.3.102 Otters could be deterred from using existing watercourses or linear habitats that are close to construction works and subject to disturbance. The disturbance impacts will, however, be limited to 33 months, the duration required to construct both the Mona Onshore Cable Corridor and the Onshore Substation. Disturbance will therefore be temporary only, limited to a few linear habitats potentially used by otter and will be associated with human noise and movement activities and increased artificial lighting.

3.9.3.103 Otters are known to use the River Clwyd (Denbighshire County Council, 2023) and there is the potential for the otters to colonise the Mona Onshore Development Area through tributaries such as ordinary watercourses which are present through the Mona Onshore Development Area.

3.9.3.104 Should pre-construction surveys confirm the presence of an otter holt or resting place, where practicable, a 30 m wide protective buffer zone would be established between any otter holts or resting places and working areas to prevent disturbance. The zone would be marked out on site for the duration of the construction phase, using high visibility Netlon fencing or other suitable temporary means.

3.9.3.105 However, given that otter have not been recorded extensively within the Mona Onshore Development Area and that the section of ordinary water course that would

be affected would account for a small part of an otter's wider territory, the predicted magnitude of impact would be **low**.

Sensitivity of the receptor

3.9.3.106 The desk study confirmed that otter are present across Wales, but the Welsh population has declined by approximately 20% in the past ten years. Otters are sensitive to habitat disturbance and, and such, the sensitivity of the receptor is considered to be **medium** as only occasional evidence of presence was encountered during the survey.

Significance of effect

3.9.3.107 Overall, the magnitude of impact is deemed to be low, and the sensitivity of receptor is considered to be medium. The effect will, therefore, be of **minor adverse** significance which is not significant in EIA terms.

The impact of habitat disturbance on Water vole during construction

Magnitude of impact

3.9.3.108 During construction there is the potential for direct and indirect disturbance to Water vole. The disturbance impact is predicted to be short term within the Mona Onshore Cable Corridor and the habitats of value to Water vole will not be impacted by disturbance in the long term.

3.9.3.109 The Mona Offshore Wind Project has made a commitment to use trenchless techniques to cross 7 watercourses for cable installation, which includes watercourses 1 and 2 where a latrine and possible burrows were recorded. The watercourses will be dammed, and a pipe flume installed to accommodate the haul road crossing. This will affect a 7 m stretch of both watercourses. Pre-construction surveys of all watercourses will be undertaken to ensure that any pipe flumes or culverts would not impact Water voles or Water vole burrows.

3.9.3.110 Pipe flumes will be installed in such a way as to ensure continued good water flow through the pipe even in times of low water, to enable Water voles to continue to move along the watercourse, unimpeded.

3.9.3.111 In order to deter any potential water voles from the working area, above-ground vegetative cover along the watercourse channel, margins, and banks within the working area and up to at least 5 m from the working areas would be cleared. As an additional precautionary measure, steel mesh with holes no larger than 15 mm in diameter could be pegged securely across cleared areas to prevent Water voles from creating new burrows in the area. The mesh would be monitored regularly to ensure the mesh is firmly held in place by the pegs, to prevent Water voles from burrowing beneath the mesh. Displacement of any Water voles from the working areas is the most practicable way to minimise disturbance to the species, whilst not impeding construction works.

3.9.3.112 The duration of the disturbance impacts will be 33 months, the time required to construct the Mona Onshore Cable Corridor. However, Water vole have not been recorded extensively within the Mona Onshore Development Area and disturbances will be limited in extent to the two watercourses. As such, the magnitude of impact would be of an intermittent nature and of short duration. The predicted magnitude would therefore be **low**.

Sensitivity of the receptor

3.9.3.113 The desk study confirmed that Water voles are present across Wales, but the Welsh population has declined by approximately 89% since 1985. Water voles are sensitive to habitat disturbance and, and such, the sensitivity of the receptor is considered to be **medium** as only occasional evidence of presence was encountered.

Significance of effect

3.9.3.114 Overall, the magnitude of impact is predicted to be low, and the sensitivity of receptor is considered to be medium. The effect will, therefore, be of **minor adverse** significance which is not significant in EIA terms.

The impact of habitat disturbance on reptiles during construction

Magnitude of impact

3.9.3.115 There is the potential for disturbance to reptiles present in the Mona Onshore Development Area. Individual common reptile species are present in low densities along the Mona Onshore Cable Corridor and along the 400 kV Grid Connection corridor. A low population of slow worm, grass snake and common lizard were recorded in the Onshore Substation Area. These small populations of reptiles will be disturbed if encountered during the installation of the cables and during the construction of the Onshore Substation and associated permanent access road.

3.9.3.116 A detailed reptile mitigation strategy will be devised, and agreed with NRW, to ensure that no reptiles are significantly disturbed by the works as detailed in the Outline LEMP (Document Reference J22).

3.9.3.117 A translocation would be undertaken to move reptiles from the Onshore Substation Area into the newly created and connected habitat within the receptor area for GCN, prior to construction works affecting the existing habitat. There will be temporary disturbance to translocated reptiles but, overall, the translocation exercise will ensure that they are not permanently disturbed by extensive construction activities within the Onshore Substation and will be translocated to less disturbed habitats of better value to reptiles.

3.9.3.118 Given the low density of reptiles recorded along the Mona Onshore Cable Corridor and along the 400 kV Grid Connection Corridor, and that there are also limited areas of high potential value to reptiles, the disturbance works to individual reptiles is likely to be temporary. Along the Mona Onshore Cable Corridor and 400 kV Grid Connection Cable Corridor, a RAMS approach will be adopted, which mostly involves displacing reptiles through controlled vegetation removal. Due to the extent and suitability of affected habitats, the risk of encountering high populations of reptiles is expected to be low along the Mona Onshore Cable Corridor and 400 kV Grid Connection Cable Corridor. This will involve displacing reptiles through vegetation management and moving any reptiles encountered in the working area to a designated location away from construction activities.

3.9.3.119 Due to the potential stress to individual reptiles, the translocation could have an impact on the reptile population present. However, these impacts are predicted to be short term impacts would be low and the effects on the reptile population would be **negligible** given the low numbers of reptiles present.

Sensitivity of the receptor

3.9.3.120 The sensitivity of the receptor is **medium.** Small numbers of reptile individuals were encountered during the surveys and, given the habitats present, it is unlikely that the Mona Onshore Development Area supports high numbers of reptiles.

Significance of effect

3.9.3.121 Overall, the magnitude of the disturbance impact is deemed to be negligible, and the sensitivity of receptor is considered to be medium. The disturbance impacts will be short term and, as such the significance of effect is predicted to be of **negligible** significance which is not significant in EIA terms.

The impact of habitat disturbance on Terrestrial Invertebrates during construction

Magnitude of impact

3.9.3.122 There is potential for temporary habitat disturbance of the moderate terrestrial invertebrate assemblage recorded within the Mona Onshore Survey Area which, in turn could temporarily disturb terrestrial invertebrate populations during construction within the Mona Onshore Development Area.

3.9.3.123 The disturbance impact is predicted to be short duration within the Mona Onshore Cable Corridor and Onshore Substation as construction works will take 33 months. Habitats will not be impacted by disturbance in the long term. Habitats affected are also not of high quality for most terrestrial invertebrate species. Construction impacts will avoid the habitat that is of highest value to terrestrial invertebrates. Embedded measures to minimise disturbance to habitats and enhance the wider area for terrestrial invertebrates will be implemented via the Outline LEMP (Document Reference J22) and Outline CoCP (Document Reference J26). Enhancements include the planting of species-rich native hedgerows, woodland, and the creation of new ponds.

3.9.3.124 The magnitude of disturbance impact is therefore, considered to be **low**.

Sensitivity of the receptor

3.9.3.125 Given the presence of 10 species of conservation concern, the sensitivity of the receptor can be considered to be **medium.**

Significance of effect

3.9.3.126 Overall, the magnitude of impact is deemed to be low given the species of conservation concern were situated outside the Mona Onshore Development Area, and the sensitivity of receptor is considered to be medium. The effect will, therefore, be of **minor adverse** significance which is not significant in EIA terms.

The impact of habitat disturbance on aquatic invertebrates during construction

Magnitude of impact

3.9.3.127 There is potential for temporary habitat disturbance of aquatic invertebrate species recorded within the Mona Onshore Survey Area. Impacts could affect watercourse and ponds located close to work activities and the affects would include light and noise disturbance and the adverse effects associated with dust deposition and water contamination.

3.9.3.128 Best practice measures will be implemented during pipe flume installation and removal during construction, as detailed in the Outline CoCP (Document Reference J26). This will minimise downstream impacts that could result from silt or soil entering the water course. The CoCP will also detail measures for avoiding and minimising disturbance associated with increases in light and noise. Therefore, impacts on water quality will be minimal and short-term.

3.9.3.129 The impact from the temporary disturbance of aquatic habitats to support aquatic invertebrates is predicted to be negligible, given the low aquatic invertebrate diversity. The magnitude of impact is therefore, considered to be **negligible.**

Sensitivity of the receptor

3.9.3.130 Given the lack of diversity of aquatic invertebrate, the sensitivity of the receptor can be considered to be **low**.

Significance of effect

3.9.3.131 Overall, the magnitude of impact is deemed to be negligible, and the sensitivity of receptor is low. The significance of effect will, therefore, be of **negligible** significance which is not significant in EIA terms.

Summary of the impact of habitat disturbance during construction

3.9.3.132 Table 3.25 provides a summary of the effects identified for habitat disturbance during construction.

Table 3.25: Summary of the significance of effect of disturbance during construction on IEFs.

IEFs	Magnitude of impact	Sensitivity of receptor	Significance of effect
Llanddulas Limestone and Gwrych Castle Wood SSSI	Negligble	High	**Minor adverse**, which is not significant in EIA terms.
Traeth Pensarn SSSI	Low	High	**Minor adverse**, which is not significant in EIA terms.
Coed y Gopa SSSI	Low	High	**Minor adverse**, which is not significant in EIA terms.
Coedydd ac Ogofau Elwy a Meichion SSSI	Low	High	**Minor adverse**, which is not significant in EIA terms.
Ancient Woodland	Negligble	High	**Minor adverse**, which is not significant in EIA terms.
Local Wildlife Sites: Coed Cord and Coed y Season	Low	High	**Minor adverse**, which is not significant in EIA terms.
Semi-natural and plantation	Low	Medium	**Minor adverse**, which is not significant in EIA terms.
Broadleaved Parkland/Scattered Trees	Low	High	**Minor adverse**, which is not significant in EIA terms.

IEFs	Magnitude of impact	Sensitivity of receptor	Significance of effect
Calcareous Grassland	Low	Medium	**Minor adverse**, which is not significant in EIA terms.
Hedgerows	Low	Medium	**Minor adverse**, which is not significant in EIA terms.
Rivers	Low	Medium	**Minor adverse**, which is not significant in EIA terms.
Bats	Low	High	**Minor adverse**, which is not significant in EIA terms.
Badger	Low	Medium	**Minor adverse**, which is not significant in EIA terms.
European eel	Low	High	**Minor adverse**, which is not significant in EIA terms.
Great Crested Newts	Low	Medium	**Minor adverse,** which is not significant in EIA terms
Hazel Dormouse	Low	Medium	**Minor adverse**, which is not significant in EIA terms.
Otter	Low	Medium	**Minor adverse,** which is not significant in EIA terms.
Water vole	Low	Medium	**Minor adverse,** which is not significant in EIA terms.
Reptile – Common Lizard, Slow worm and Grass Snake	Negligible	Medium	**Negligble,** which is not significant in EIA terms
Terrestrial Invertebrates	Low	Medium	**Minor adverse**, which is not significant in EIA terms.
Aquatic invertebrates	Negligible	Low	**Negligble,** which is not significant in EIA terms.

The impact of habitat disturbance during operations and maintenance for all important ecological receptors

3.9.3.133 The impacts from the operations and maintenance activities within the Mona Onshore Development Area will be sporadic, localised and not above normal background disturbance levels, excluding at the Onshore Substation. At the Onshore Substation there will be limited but regular maintenance taking place which will represent a slight increase upon background noise levels.

3.9.3.134 Further detail relating to noise levels is detailed in Volume 3, Chapter 9: Noise and vibration of the Environmental Statement.

Magnitude of impact

Mona Landfall, Mona Onshore Cable Corridor and 400 kV Grid Connection Cable Corridor

3.9.3.135 There will be a requirement for cable inspection, maintenance and repair. However, it is not anticipated that the disturbance from these activities during the operation and maintenance phase will be extensive. Cable inspection and regular maintenance is likely to be of short duration and unlikely to cause a high level of disturbance beyond baseline conditions.

3.9.3.136 If repairs are required, these are also likely to be localised and short term in duration. Therefore, disturbance impacts as a results of cable inspection, maintenance, and any necessary repairs, during operation and maintenance, is likely to be **negligible.**

Onshore Substation

3.9.3.137 At the Onshore Substation there will be limited but regular maintenance taking place which will represent a slight increase upon background activity levels. There will be occasional vehicle access moving along the permanent access road to undertake these maintenance activities.

3.9.3.138 In combination with the ongoing baseline agricultural activities, which are likely to continue in the parcels surrounding the Onshore Substation, it is predicted that this increase in disturbance activity would be **low**.

Sensitivity of the receptor

3.9.3.139 The 23 IEFs assessed in this chapter, have a sensitivity that ranges from low to high. Therefore, for the purposes of the assessment a precautionary approach is applied, and it is assumed all receptors have **high** sensitivity.

Significance of the effect

Mona Landfall, Mona Onshore Cable Corridor and 400 kV Grid Connection Cable Corridor

3.9.3.140 Overall, the magnitude of impact during the operation and maintenance phase is deemed to be negligible and the sensitivity of receptors is high. Therefore, the significance of effect will be **minor adverse** significance**,** which is not significant in EIA terms.

Onshore Substation

3.9.3.141 Overall, the magnitude of the impact during operations and maintenance is deemed to be low and the sensitivity of the receptors is high. The effect will, therefore, be of minor adverse significance, which is not significant in EIA terms.

Table: 3.26: Table summarising the significance of effect during operations and maintenance of habitat disturbance on IEFs.

Location of all IEFs assessed	Magnitude of impact	Sensitivity of receptor		Significance of effect
Mona Landfall, and Mona Onshore Cable Corridor and 400 kV Grid Connection Cable Corridor	All receptors	Negligible	High	, not significant in EIA terms
Onshore Substation	All receptors	Low	High	**Minor adverse,** not significant in EIA terms

The impact of habitat disturbance during decommissioning for all IEFs

Magnitude of impact

3.9.3.142 As the onshore export cables are located away from the coastal vegetated habitat, there will be no disturbance during decommissioning at the Mona Landfall. The Mona Onshore Cable Corridor and the 400 kV Grid Connection Cable Corridor will remain in place, including at the crossing of ditches and streams and underneath sensitive habitats such as ancient woodlands and important hedgerows. Activity will be localised to the removal of link boxes which, may require very localised sections of hedgerow to be removed. This will be kept to a minimum where practicable.

3.9.3.143 The MDS includes the maximum footprint and therefore the largest possible area of habitat permanent or temporary habitat loss to ecological receptors. The decommissioning includes the removal of the Onshore Sub-station and permanent access road, which is likely to cause temporary disturbance activities within the platform area and increased disturbance activities along the access track. The magnitude is therefore, considered to be **low**.

Sensitivity of receptors

3.9.3.144 The 23 IEFs assessed in this chapter, have a sensitivity that ranges from low to high.

Significance of the effect

3.9.3.145 Overall, the magnitude of impact is deemed to be low, and the sensitivity of the receptors are considered to be low to high. The effect will, therefore, be of negligible to **minor adverse** significance, which is not significant in EIA terms.

3.9.4 The impact of habitat fragmentation

3.9.4.1 Construction and decommissioning of the Mona Onshore Development Area have the potential to result in habitat fragmentation and species isolation through creating changes to habitat configuration at a landscape scale. The MDS is based upon the largest footprint of disturbed land and is summarised in Table 3.21.

3.9.4.2 Changes which cause existing habitat to become broken up or fragmented can, in turn, lead to the isolation of individual species, such as badgers, bats, Hazel Dormouse, GCN and reptiles. This in turn, reduces the area in which they can forage and breed and, therefore, potentially affect their population size and viability.

3.9.4.3 The assessment of effects during construction is provided below per IEFs. This is followed by the assessment for and decommissioning.

The impact of habitat fragmentation on Llanddulas Limestone and Gwrych Castle Wood SSSI during construction

Magnitude of impact

3.9.4.4 There is no potential for fragmentation impacts of Gwrych Castle Wood SSSI due to the implementation of the trenchless technique drilling operations under Gwrych Castle Wood SSSI. The impact of fragmentation on Gwrych Castle Wood SSSI is predicted to be **no change**.

Sensitivity of the receptor

3.9.4.5 Llanddulas Limestone and Gwrych Castle Wood SSSI has eight qualifying features including limestone grassland, dry heath, Semi-natural broadleaved woodland, lesser horseshoe bat hibernacula (caves), silver studded-blue butterfly, rare butterflies, moths, and a fly (invertebrate assemblage), rare lower plants, mosses (bryophyte assemblage) lichen and rare plants (vascular plant assemblage). This ecosystem takes hundreds of years to establish and, the combination of the eight qualifying features consider the receptor to be of high value. The sensitivity of the receptor is therefore, considered to be **high.**

Significance of effect

3.9.4.6 Overall, the magnitude of fragmentation impacts is deemed to none, and the sensitivity of receptor is considered to be high. The effect will, therefore, be **no change** which is not significant in EIA terms.

The impact of habitat fragmentation on Traeth Pensarn SSSI during construction

Magnitude of impact

3.9.4.7 There will be no habitat fragmentation as a consequence of temporary access to the beach for construction support works within the extent of the SSSI. The magnitude of fragmentation impact is therefore, considered to be **no change**

Sensitivity of the receptor

3.9.4.8 Traeth Pensarn SSSI extends for 1.7 km along the North Wales coast. Coastal vegetated shingle is the qualifying feature of the SSSI. A vegetated shingle beach is composed of a mixture of plant communities. Some species are typical of the 'pioneer' community while others are more typical of the 'stabilised' community. Coastal vegetated shingle resource which is a threatened habitat because of rising sea levels, coastal erosion, and climate change. Vegetated shingle beaches are relatively rare habitats. Traeth Pensarn represents more than 10% of the total area of this habitat in Wales. As such the sensitivity of the receptor can be considered to be **high.**

Significance of effect

3.9.4.9 Overall, the magnitude of the impact is deemed to be no change, and the sensitivity of the receptor is considered to be high. The significance of effect will, therefore, be **no change**, which is not significant in EIA terms.

The impact of habitat fragmentation on Coed y Gopa SSSI

Magnitude of impact

3.9.4.10 The physical separation of Coed y Gopa SSSI from the Mona Onshore Development Area means there would be no direct fragmentation from construction activities on the SSSI. The fragmentation of habitats within the Mona Onshore Development Area could fragment and, therefore, disrupt and disturb Lesser Horseshoe bats which roost within the Coed y Gopa SSSI. Lesser Horseshoe bats are a qualifying feature on the SSSI.

3.9.4.11 Given the embedded measures to maintain connectivity for bats are also proposed and secured as part of the Outline LEMP (Document Reference J22), the impact is therefore predicted to be of local spatial extent, short term duration, and reversible. It is predicted that the impact will affect the receptor indirectly, as bats will have the ability to use retained hedgerows in the Mona Onshore Development Area and the wider landscape. The magnitude of the impact is therefore predicted to be **low**.

3.9.4.12 Artificial hedgerows will be used to further minimise the impact of hedgerow fragmentation on commuting bats should monitoring identifying fragmentation impacts, as will be a commitment of the NRW EPS mitigation licence for bats.

Sensitivity of the receptor

3.9.4.13 Coed y Gopa is designated mainly for its assemblage of roosting bats including lesser horseshoe bat which is of national value. Coed y Gopa is therefore considered to be of **high** sensitivity.

Significance of effect

3.9.4.14 Given the magnitude of impact is low, the sensitivity of the receptor is high, therefore, the significance of effect is **minor adverse**, which is not significant in EIA terms.

The impact of habitat fragmentation on Coedydd ac Ogofau Elwy a Meichion SSSI during construction

Magnitude of impact fragmentation impacts

3.9.4.15 The physical separation of Coedydd ac Ogofau Elwy a Meichion SSSI from the Mona Onshore Development Area means there would be no direct fragmentation from construction activities on the SSSI. The fragmentation of habitats within the Mona Onshore Development Area could fragment and, therefore, disrupt the assemblage of bats which roost within the Coedydd ac Ogofau Elwy a Meichion SSSI. The assemblage of are a qualifying feature on the SSSI.

3.9.4.16 Given the embedded measures to maintain connectivity for bats are also proposed and secured as part of the Outline LEMP (Document Reference J22), the impact is therefore predicted to be of local spatial extent, short term duration, and reversible. It is predicted that the impact will affect the receptor indirectly, as bats will have the ability to use retained hedgerows in the Mona Onshore Development Area and the wider landscape. The magnitude of the impact is therefore predicted to be **low.**

3.9.4.17 Artificial hedgerows will be used to further minimise the impact of hedgerow fragmentation which could impact commuting bats, should monitoring identifying fragmentation impacts, as will be a commitment of the NRW EPS mitigation licence for bats.

Sensitivity of the receptor

3.9.4.18 Coedydd ac Ogofau Elwy a Meichion SSSI is designated for semi-natural broadleaved woodland including an assemblage of rear flowering plants and scarce bryophytes which will to be sensitive to environmental changes. The site is also designated for an assemblage of roosting bats. Given the range and type of habitats present, Coedydd ac Ogofau Elwy a Meichion SSSI is considered to have **high** sensitivity.

Significance of effect

3.9.4.19 Overall, the magnitude of impact is predicted to be low while the sensitivity of the receptor is high. The significance of effect is therefore **minor adverse**, which is not significant in EIA terms.

The impact of habitat fragmentation on Ancient Woodland during construction

Magnitude of fragmentations impacts

3.9.4.20 There is no potential for fragmentation impacts of ancient woodland due to the embedded primary mitigation of trenchless techniques committed by the project under the ancient woodland parcels within the Mona Onshore Development Area.

3.9.4.21 The magnitude is therefore, considered to be **no change.**

Sensitivity of the receptor

3.9.4.22 Ancient woodland takes hundreds of years to establish and is defined as an irreplaceable habitat. Ancient woodland is deemed to be of high value and has none or very low recoverability. The sensitivity of the receptor is therefore, considered to be **high.**

Significance of effect

3.9.4.23 Overall, the magnitude of fragmentation impact is deemed to be no change and the sensitivity of receptor is considered to be high. The effect will, therefore, be **no change** which is not significant in EIA terms.

The impact of habitat fragmentation on Local Wildlife Sites: Coed Cord and Coed y Season during construction

Magnitude of fragmentation impacts

3.9.4.24 There are two LWS Coed Cord, and Coed y Saeson' which are located partially within the Mona Onshore Development Area.

3.9.4.25 The proposed permanent access road from the Glascoed Road through to the Onshore Substation will traverse through a parcel between the two LWS's, which comprises, predominately improved grassland, failed (failing) plantation woodland and three ponds at the northwest of the parcel.

3.9.4.26 This parcel of land forms part of a mitigation area for the Gwent Y Môr Offshore Windfarm, operational since 2015. This land parcel includes the Gwent Y Môr Windfarm GCN mitigation ponds at the north and areas of tree planting. The permanent access road avoids both the ponds and areas of tree planting.

3.9.4.27 The permanent fragmentation impact of the access road to the Onshore Substation is unlikely to cause a barrier to dispersal for many species, given the infrequency of use of vehicles and the width of the track (8 m). The presence of the swale along the

eastern edge of the permanent access road will further reduce any long term potential fragmentation impacts.

3.9.4.28 In addition, the planned proposal to plant up parcel 12 and 13, in addition to the natural re-generation of parcel 11, as detailed in Outline LEMP (Document reference J26), would provide a strong linkage along the southern boundary of the two LWS and a link to Coed Esgob to the west, which is plantation on ancient woodland soils, but not a LWS.

3.9.4.29 As such, given the appropriate mitigation measures embedded as part of the Mona Offshore Wind Project, the impact of habitat fragmentation on woodland in proximity to Coed Cord and Coed y Saeson' LWSs is predicted to be **low**.

Sensitivity of the receptor

3.9.4.30 Woodland takes many years to establish and is defined as an irreplaceable habitat. Woodland is deemed to be of high value and has none or very low recoverability. The sensitivity of the receptor is therefore, considered to be **high.**

Significance of effect

3.9.4.31 Overall, with the implementation of mitigation, the magnitude of the fragmentation impact is deemed to be low and the sensitivity of the receptor is considered to be high. It is predicted that will be therefore, be **minor adverse**, impact which is not significant in EIA terms.

The impact of habitat fragmentation on broadleaved trees (parkland) and scattered trees during construction

Magnitude of fragmentation impacts

3.9.4.32 There may be some minor fragmentation impacts as a consequence of the construction of the Mona Offshore Wind Project to broadleaved trees and scattered trees.

3.9.4.33 There are no fragmentation impacts predicted in the Mona Onshore Cable Corridor and the 400 kV Grid Connection Cable Corridor. Through detailed design, the Mona Offshore Wind Project will seek opportunities to microsite and reduce trees loss, but as a worst case scenario there will be a loss of no more than 10 trees.

3.9.4.34 However, within the Onshore Substation Area, there will be the removal of 46 trees and trees that are retained and protected are likely to be surrounded by construction related activities, which, in turn has the potential to cause fragmentation and isolation impacts for establishment of seedlings.

3.9.4.35 The project fragmentation and isolation impacts are likely to last up to 33 months, which given the longevity of mature established broadleaved trees, no long term impacts are anticipated. The embedded mitigation measures of monitoring and managing the trees during the construction period, secured through the Outline LEMP (Document Reference J22) will further ensure the long term survival and health of trees to produce seedling for self-establishment in the future. The magnitude of impact is therefore, considered to be **low.**

Sensitivity of the receptor

3.9.4.36 Matured broadleaved trees are important to combat climate change and help prevent water pollution and soil erosion. They also provide potential breeding habitat for species such as birds, Hazel Dormouse, and bats. Therefore, the sensitivity of the receptor is considered to be **high.**

Significance of effect

3.9.4.37 Overall, the magnitude of fragmentation and isolation impact is deemed to be low, and the sensitivity of receptor is considered to be high. The effect will, therefore, be of **minor adverse** significance which is not significant in EIA terms.

The impact of habitat fragmentation on semi-natural and plantation woodland during construction.

3.9.4.38 A block of semi-natural and plantation woodland within the Mona Onshore Development Area, to the north of the Onshore Substation will be directly affected during construction. The woodland is referred to as block 11 in Figure 2.4: Illustrative landscape and ecology strategy plan of the Outline LEMP (Document Reference J22). This land is required to facilitate the construction of the permanent access road to the Onshore Substation that will result in the permanent loss of approximately 870 m^2 of woodland.

3.9.4.39 The woodland, block 11, is within the Mona Onshore Development Area and has been included as embedded mitigation for both woodland screening to the north of the Onshore Substation and, also, to improve the quality and biodiversity of the woodland. The proposed mitigation for woodland regeneration as detailed in the Outline LEMP (Document Reference J22) includes removal of trees with ash die back disease, which is intended to remove the disease from the immediate area, reduce the risk of it spreading and to open the canopy, which will enable other native species to develop.

3.9.4.40 All non-native tree species will also be removed, which will further help native species within the woodland. All retained trees within the woodland including the mature oak trees and the trees adjacent to the construction works will be protected from physical damage. The woodland will be monitored to assess whether natural regeneration is effective and, if not, remedial planting will be provided. All woodland and tree planting will be undertaken as early as practicable in the Mona Onshore Development programme to ensure the trees have as much time to grow as possible.

3.9.4.41 The requirement to remove approximately 870 m^2 of woodland through open-cut trenching, works would have a medium-term moderate adverse fragmentation impact on the woodland block 11 to the north of the Onshore Substation. This impact is temporary and will exist until the mitigation planting described above reaches maturity. Therefore, with mitigation and taking account of the availability of comparable woodland in the wider landscape, the small and localised extent of the loss, the reduced quality and health of the trees to be lost, the magnitude of fragmentation temporary impact is **low.**

Sensitivity of the receptor

3.9.4.42 The woodland is dominated by ash trees interspersed with non-native coniferous trees. Mature broadleaved oak trees are present in a cluster oak along the existing access track to the southeast. Many of the ash trees that have been planted and are in a significant stage of decline due to ash die back disease. However, woodland plays an important role in combatting climate change and helps prevent water pollution and soil erosion. Woodland also provides breeding and foraging habitat for species such as bats, birds, and Hazel Dormouse. Due to, the quality of woodland given non-native species and re-planted ash with evidence of as die back, the sensitivity of the receptor is considered to be **medium.**

Significance of effect

3.9.4.43 Following the application of the proposed mitigation, overall, the magnitude of impact is low, and the sensitivity of receptor is medium. The effect will, therefore, be of **minor adverse** significance, which is not significant in EIA terms.

The impact of habitat fragmentation on calcareous grassland during construction

Magnitude of impact

3.9.4.44 There are no potential fragmentation impacts on calcareous grassland due to the primary embedded mitigation measures involving the use of trenchless techniques under the calcareous grassland within the Mona Onshore Development Area.

3.9.4.45 The magnitude is therefore, considered to be **no change**.

Sensitivity of the receptor

3.9.4.46 Calcareous grasslands are considered in general to be semi-natural habitats, because without human management through grazing, cutting, or burning, they would eventually turn into scrub and woodland through natural succession (Dengler *et a*l., 2014; Poschlod & Wallis de Vries, 2002). While it is limited in extent within the Mona Onshore Development Area, this habitat is uncommon particularly in Wales National archives (2011) and, as such, is considered to be **medium** sensitivity.

Significance of effect

3.9.4.47 Overall, the magnitude of impact is deemed to be no change and the sensitivity of receptor is considered to be medium. The effect will, therefore, be **no change** which is not significant in EIA terms.

The impact of habitat fragmentation on hedgerows during construction

Magnitude of impact

3.9.4.48 There will temporary fragmentation impacts to hedgerows where they are temporarily removed to facilitate construction. It is assumed there would be approximately 7km of hedgerow temporarily lost (see section 3.9.2 for a breakdown).

3.9.4.49 Where practicable, detailed design will seek minimise hedgerow removal by using existing gaps in hedgerows. Where hedgerows are fragmented, the remaining hedge will be retained and protected until the gaps can be re-instated. This protection, monitoring and management of retained hedgerows will be key in ensuring that the re-instatement of hedgerow gaps will re-establish appropriately, further reducing the potential for long-term fragmentation impacts.

3.9.4.50 Suitably qualified and experienced contractors will be used to undertake the reinstatement, which will be based on restoring the hedge to match the remaining hedgerow at each location. Where appropriate, some enhancement (such as planting of additional suitable species) may be undertaken.

3.9.4.51 The measures will ensure that there are continuous hedgerow habitat linkages through the landscape during the construction period.

3.9.4.52 The fragmentation and isolation impacts are predicted to be short term, as hedgerows will be re-instated as soon as practicable. Therefore, with the embedded mitigation measures, the magnitude of impact of temporary fragmentation and isolation of hedgerows is predicted to be **low**.

Sensitivity of the receptor

3.9.4.53 Hedgerows provide important connectivity for a species such as hazel dormice and bats but would have the ability to establish following a planting and appropriate management regime. Therefore, the sensitivity of the receptor is considered to be **medium.**

Significance of effect

3.9.4.54 With the mitigation applied, the long term magnitude of impact for fragmentation is low, the sensitivity of the receptor is medium and, therefore, the significance of effect is **minor adverse** which is not significant in EIA terms.

The impact of habitat fragmentation on rivers and ordinary watercourses during construction

Magnitude of impact

3.9.4.55 There will be some minor temporary fragmentation impacts to watercourses within the Mona Onshore Development Area from the construction of the two permanent culverts and the pipe flumes to enable the haul road to cross ordinary watercourses.

3.9.4.56 However, the fragmentation and isolation impacts are predicted to be of a short term duration, limited in extent of area and highly reversible, as the potential fragmentation impacts will only be applicable whilst the infrastructure is being installed. There may be minor temporary fragmentation impacts whilst the pipe flumes are being removed after the construction activities are finished along the haul road. No fragmentation impacts are anticipated for the two permanent culverts as these will stay in place for the duration of the lifecycle of the project and after decommissioning.

3.9.4.57 Given that the fragmentation and isolation impacts of ordinary watercourses will be of a short duration, limited in extent and highly reversible the magnitude of impact is therefore, considered to be **low.**

Sensitivity of the receptor

3.9.4.58 The potential value of the onsite watercourses is enhanced by virtue of the fact they have hydrological connections to larger main rivers and thus form part of these catchments. As such the sensitivity of the receptor can be considered to be **medium.**

Significance of effect

3.9.4.59 Overall, the magnitude of impact is deemed to be **low,** and the sensitivity of receptor is considered to be high. The effect will, therefore, be **minor adverse** which is not significant in EIA terms.

The impact of habitat fragmentation on Bats during construction

Magnitude of impact

Temporary fragmentation

3.9.4.60 Bat will be impacted by habitat fragmentation as a result of the temporary loss of hedgerows (see section 3.9.2). It is anticipated that all watercourses and treelines within the Mona Onshore Development Area will be retained and therefore there will be no fragmentation impacts associated with these features.

3.9.4.61 The temporary removal of hedgerows is unlikely to result in a significant fragmentation impact, as bats can move across narrow gaps (such as the 7 m required for the haul road) and temporary measures will be implemented, such as use artificial hedgerows if monitoring at strategic locations identified the requirement for further mitigation measures, as outlined in the Outline LEMP (document reference: J26). In addition, the nature of the wooded landscape and hedgerow network surrounding the Mona Onshore Development Area limits the overall likely impacts of fragmentation impacts for bats.

3.9.4.62 The fragmentation and isolation impacts for foraging and commuting bats are predicted to be short term within the Mona Onshore Development Area, as hedgerows will be re-instated as soon as practicable. Therefore, with the embedded mitigation measures, the magnitude of impact of temporary fragmentation and isolation of hedgerows within the Mona Onshore Development Area is predicted to be **low**.

Permanent fragmentation

3.9.4.63 The permanent hedgerow loss within the Mona Onshore Development Area is limited to approximately amounts to approximately 550m at the Onshore Substation. As part of the proposed landscape and ecology mitigation design, historic hedgerows surrounding the Mona Onshore Substation will be re-instated and replanted using locally sourced native species, where practicable, as outlined in the Outline LEMP (document reference: J.26). These hedgerows will re-connect strategically important landscape links to ancient woodland to the southwest, such as Coed yr Odyn, Coed Celyn and at Bryn Meiriadog, ensuring that the movement of bats through the landscape for commuting and foraging will be improved.

3.9.4.64 Therefore, with the embedded mitigation measures the magnitude of permanent fragmentation and isolation impacts to the bat assemblage at the Onshore Substation is considered to be **low**.

Sensitivity of the receptor

3.9.4.65 The presence of 10 species of bat is not high given the extent of the survey area, and most of the activity was of common and widespread species. However, the significance of the Mona Onshore Development Area for lesser horseshoe bat (national value) and Leisler's bat (district value) along with the overall assemblage of bats across the extent of the Mona Onshore Development Area, means that the Mona Onshore Development Area is of national value for bats and, as such, is considered to be **high**.

Significance of effect

3.9.4.66 Overall, the magnitude of impact is deemed to be low, and the sensitivity of receptor is considered to be high. The effect will, therefore, be of **minor adverse** significance which is not significant in EIA terms.

The impact of habitat fragmentation on Badgers during construction

Magnitude of impact

3.9.4.67 There will be fragmentation impacts on habitats which has the potential to impact badger foraging and territories during construction within the Mona Onshore Development Area. The impacts of fragmentation will be temporary for badgers during construction within the Mona Onshore Development Area.

3.9.4.68 The fragmentation impact is predicted to be short term (within the Mona Onshore Cable Corridor and 400 kV Grid Connection Cable Corridor) and the habitats will not be impacted by fragmentation in the long term.

3.9.4.69 The fragmentation impacts are likely to be slightly more extensive during the construction the Onshore Substation, but embedded mitigation measures such as fencing off the Onshore Substation to prevent badger access and those such as the retention of woodland, hedgerows and fields around the Onshore Substation will minimise fragmentation impacts. Measures to prevent badgers getting trapped in the construction areas will be implemented via the Outline LEMP (Document Reference J22).

3.9.4.70 RAMs will be implemented during construction, in line with best practice (Badger Trust, 2023) to ensure fragmentation impacts to badgers is minimised. These include avoidance of noise and vibration near active setts, keeping heavy machinery/excavation work away from setts, and avoiding activity between dusk and dawn when badgers are most active. The magnitude of impact is therefore, considered to be **low.**

Sensitivity of the receptor

3.9.4.71 The number of badger setts identified throughout the area indicates that they are extremely widespread. However, in the absence of mitigation badgers are very susceptible to the impacts of construction and associated fragmentation. The mitigation measures designed into the Mona Offshore Wind Project will be implemented to ensure that no badgers are harmed during the construction phase. Therefore, the sensitivity of the receptor is considered to be **medium.**

Significance of effect

3.9.4.72 Overall, the magnitude of impact is deemed to be low, and the sensitivity of receptor is considered to be medium. The effect will, therefore, be of **minor adverse** significance which is not significant in EIA terms.

The impact of habitat fragmentation on European eel during construction

Magnitude of impact

3.9.4.73 There will be some potential temporary fragmentation and isolation impacts to European eel within the Mona Onshore Development Area. The field survey found European eel in one watercourse assessed as being suitable to support fish/eels which is the watercourse flowing through Section 2 at Nant Fawr. The Mona Offshore Wind Project has made a commitment to use trenchless techniques to cross this watercourse for cable installation. However, there is some potential temporary fragmentation and isolation impacts to European eel during the process of cable installation.

3.9.4.74 This process will involve the watercourse being dammed and a pipe flume installed to accommodate the haul road crossing. This will affect a 7 m stretch of the watercourse.

3.9.4.75 Pipe flumes will be installed in such a way as to ensure continued good water flow through the pipe even in times of low water, to enable eels to continue to move along the watercourse. Therefore, the fragmentation impact is only likely to occur during the installation and removal of the pipe flumes and the installation of the two permanent culverts, along two further ordinary watercourses.

3.9.4.76 Should pre-construction surveys find that European eels are present in other watercourses, trenching work at smaller water courses and ditches will not take place

at night and will include measures such that eels cannot become trapped, (and their habitat fragmented), such as ramped ends. As such, no permanent fragmentation impacts to European Eel populations are anticipated.

3.9.4.77 Given the primary and tertiary embedded mitigation, there would be a **low** magnitude of fragmentation impacts on European Eel.

Sensitivity of the receptor

3.9.4.78 Given the critically endangered status of European Eel and the corresponding district value of the receptor, the sensitivity of the receptor can be considered to be **high.**

Significance of effect

3.9.4.79 Overall, the magnitude of fragmentation impacts is deemed to be low, and the sensitivity of receptor is considered to be high. The effect will, therefore, be of **minor adverse** significance, which is not significant in EIA terms.

The impact of habitat fragmentation on Great Crested Newts during construction

Magnitude of impact

3.9.4.80 Individual GCN, likely to be part of the St Asaph metapopulation, are confirmed to be present in the Mona Onshore Development Area. As such, in the absence of mitigation, there is the potential for fragmentation impacts.

3.9.4.81 Individual GCN along the Mona Onshore Cable Corridor and 400 kV Grid Connection Corridor will be subject to temporary fragmentation impacts if encountered during works as the trenching activities may bisect terrestrial habitats used by GCN. However, it has been agreed with NRW at EWG6 that using exclusion fencing along the entire corridor from the Mona Landfall to the Onshore Substation may cause further unnecessary fragmentation impacts and it is has been agreed in principal that a RAMs approach, as set out in Appendix 3 of the Outline LEMP (Document Reference J22) may be a more appropriate to reduce fragmentation impacts along the Mona Onshore Cable Corridor and 400 kV Grid Connection Corridor.

3.9.4.82 GCN present within the Onshore Substation area will be subject to minor fragmentation impacts as they will be excluded from the construction site. The GCN will be translocated to the 9 ha receptor sites to the east of the construction area and the receptor site will be kept open to the surrounding landscape and connectivity will be maintained to the GCN St Asaph metapopulation to the north and west. Following the construction and habitat re-instatement activities, the exclusion fence will be removed and GCN from the receptor site and the surrounding area will be able to migrate into the newly created habitats of their own volition.

3.9.4.83 The magnitude of fragmentation impacts, both temporary and permanent is therefore, predicted to be **negligible.**

Sensitivity of the receptor

3.9.4.84 It is considered that the sensitivity of the receptor is **medium** as GCN is medium conversation importance and has medium ability to recover.

Significance of effect

3.9.4.85 Overall, the magnitude of impact is deemed to be negligible**,** and the sensitivity of receptor is considered to be medium. The effect will, therefore, be of **minor adverse** significance which is not significant in EIA terms.

The impact of habitat fragmentation on Hazel Dormouse during construction

Magnitude of impact

3.9.4.86 Hazel Dormouse will be impacted by habitat fragmentation as a result of the temporary loss of hedgerows (see section 3.9.2). This is unlikely to result in a significant fragmentation impact, as Hazel Dormouse could move across this narrow gap (7 m) for the haul road, and temporary measures, such as artificial hedgerows will also be used if monitoring at strategic locations identified the requirement for further mitigation measures, as outlined in the Outline LEMP (document reference: J26).

3.9.4.87 The temporary removal of hedgerows is unlikely to result in a significant fragmentation impact, as Hazel Dormice can move across narrow gaps (such as the 7 m required for the haul road) and temporary measures will be implemented, such as use artificial hedgerows will if monitoring at strategic locations identified the requirement for further mitigation measures, as outlined in the Outline LEMP (document reference: J26). In addition, the nature of the wooded landscape and hedgerow network surrounding the Mona Onshore Development Area limits the overall likely impacts of fragmentation impacts for bats.

3.9.4.88 The fragmentation and isolation impacts for Hazel Dormouse are predicted to be short term, as hedgerows will be re-instated as soon as practicable. Therefore, with the embedded mitigation measures, the magnitude of impact of temporary fragmentation and isolation of hedgerows within the Mona Onshore Development Area is predicted to be **low**.

Sensitivity of the receptor

3.9.4.89 The desk study confirmed that Wales is on the edge of the distribution range of Hazel Dormouse in Britain and records indicated that presence in North Wales is infrequent. The number of Hazel Dormouse sites indicates that there is probably a local population present within the Mona Onshore Development Area. Hedgerows provide important connectivity for a species such as Hazel Dormouse but would have the ability to recover from short term fragmentation impacts following a re-instatement planting and management regime. Therefore, the sensitivity of the receptor is considered to be **medium.**

Significance of effect

3.9.4.90 Overall, the magnitude of impact is deemed to be low, and the sensitivity of receptor is considered to be medium. The effect will, therefore, be of **minor adverse** significance which is not significant in EIA terms.

The impact of habitat fragmentation on Otter during construction

Magnitude of impact

3.9.4.91 During construction, the watercourses and associated linear habitat used by otter will be temporarily severed, which will result in fragmentation. The impact is predicted to be short term within the Mona Onshore Cable Corridor. Otter habitat will not be impacted by fragmentation impacts in the long term.

3.9.4.92 The Mona Offshore Wind Project has made a commitment to use trenchless techniques to cross 7 watercourses for cable installation, which includes watercourses 1 and 3. Possible otter holts were recorded along both watercourses. These

watercourses will be dammed, and a pipe flume installed to accommodate the crossing. This will affect a 7 m stretch of both watercourses.

3.9.4.93 Pre-construction surveys of all watercourses will be undertaken to ensure that any pipe flumes or culverts will not impact otters holts. Pipe flumes will be installed in such a way as to ensure continued good water flow through the pipe even in times of low water, and to enable otters to continue to move along the watercourse, unimpeded. Otter are also a highly mobile species and can navigate short distances with ease. The temporary works are therefore very unlikely to affected otter. There will be no long-term fragmentation impacts to otter populations.

3.9.4.94 Otters are known to use the River Clwyd (Denbighshire County Council, 2023) and there is the potential for the otters to colonise the Mona Onshore Development Area through tributaries such as ordinary watercourses which are present through the Mona Onshore Development Area. However, given that otter have not been recorded extensively within the Mona Onshore Development Area and that the sections of watercourses that would be affected would account for a small part of an otter's wider territory, the predicted magnitude of fragmentation impact would be **low.**

Sensitivity of the receptor

3.9.4.95 The desk study confirmed that otter are present across Wales, but the Welsh population has declined by approximately 20% in the past ten years. Otter are sensitive to habitat fragmentation and, and such, the sensitivity of the receptor is considered to be **medium** as only occasional evidence of presence was encountered during the survey.

Significance of effect

3.9.4.96 Overall, the magnitude of impact is deemed to be low, and the sensitivity of receptor is considered to be medium. The effect will, therefore, be of **minor adverse** significance which is not significant in EIA.

The impact of habitat fragmentation on Water vole during construction

Magnitude of impact

3.9.4.97 During construction there is the potential for fragmentation impacts to Water vole. Any impact is predicted to be short term within the Mona Onshore Cable Corridor as construction will be complete within 33 months.

3.9.4.98 The Mona Offshore Wind Project has made a commitment to use trenchless techniques to cross watercourses 1 and 2 where possible burrows and a Water vole latrine were recorded. The watercourses will be dammed, and a pipe flume installed to accommodate the haul road crossing. This will affect a 7 m stretch of the watercourse. Pre-construction surveys of all watercourses will be undertaken to ensure that any pipe flumes or culverts would not impact Water voles or Water vole burrows.

3.9.4.99 Pipe flumes will be installed in such a way as to ensure continued good water flow through the pipe even in times of low water, to enable Water voles to continue to move along the watercourse, unimpeded. As such, no fragmentation impacts to Water vole populations are anticipated at watercourses 1 and 2.

3.9.4.100 If Water vole use other watercourses to move through the landscape, they may be adversely affected temporarily by construction related fragmentation. Any associated impacts will be limited to the duration of the construction works.

3.9.4.101 However, given that Water vole have not been recorded extensively within the Mona Onshore Development Area, it is predicted that the fragmentation impacts on the Water vole population as a consequence of cable trenching at two ordinary watercourses and installation and removal of pipe flumes, which would be 7 m in diameters, across nine ordinary watercourses, will not have a significant magnitude of impact. The magnitude of fragmentation impact would be intermittent, limited in extent and of a short duration. The predicted magnitude would therefore be **low**.

Sensitivity of the receptor

3.9.4.102 The desk study confirmed that Water voles are present across Wales, but the Welsh population has declined by approximately 89% since 1985. Water voles are sensitive to habitat fragmentation and, and such, the sensitivity of the receptor is considered to be **medium** as only occasional evidence of presence was encountered.

Significance of effect

3.9.4.103 Overall, the magnitude of impact is deemed to be low, and the sensitivity of receptor is considered to be medium. The effect will, therefore, be of **minor adverse** significance which is not significant in EIA.

The impact of habitat fragmentation on reptiles during construction

Magnitude of impact

3.9.4.104 There is the potential for temporary fragmentation impacts to reptiles present in the Mona Onshore Development Area. Individual common reptile species are present in low densities along the Mona Onshore Cable Corridor and along the 400 kV Grid Connection corridor.

3.9.4.105 Given the low density of reptiles recorded along the Mona Onshore Cable Corridor and along the 400 kV Grid Connection Corridor, and that there are also limited areas of high potential value to reptiles, the fragmentation impacts, which will be mitigated by the use of RAMs similar to the approach for GCN (see the Outline LEMP (Document Reference J22, appendix 3)) the magnitude of impact along the Mona Onshore Cable Corridor and along the 400 kV Grid Connection Corridor would be negligible.

3.9.4.106 Reptiles present within the Onshore Substation area, would be subject to minor fragmentation impacts as they will be excluded from the construction site using translocation methods. The reptiles will be translocated in advance of construction activities to the 9 ha enhanced receptor site to the east of the construction area. Following construction and habitat re-instatement activities, the exclusion fence around the receptor site will be removed and reptiles from the receptor site and the surrounding area will be able to migrate into the newly created optimal habitats of their own volition. The receptor site will be well connected with the surrounding landscape using linear habitats and the connectivity will be maintained. The connectivity will enable reptiles to move freely in and out of the receptor site. Overall, the magnitude of the impact on reptiles is deemed **negligible**.

3.9.4.107 Further details of the reptile mitigation are presented in the Outline LEMP (Document Reference J22).

Sensitivity of the receptor

3.9.4.108 It is considered that the sensitivity of the receptor is **medium** as reptiles are medium conversation importance and has medium ability to recover.

Significance of effect

3.9.4.109 Overall, the magnitude of impact is deemed to be negligible, and the sensitivity of receptor is considered to be medium. The effect will, therefore, be of **minor adverse** significance which is not significant in EIA terms.

The impact of habitat fragmentation on terrestrial invertebrates during construction

Magnitude of impact

3.9.4.110 There is limited potential for habitat fragmentation, which in turn could fragment terrestrial invertebrates during construction within the Mona Onshore Development Area.

3.9.4.111 Given that the moderate assemblage of terrestrial invertebrates, including SPIs, were recorded in areas which will not be impacted by construction activities and the mobile nature of SPIs recorded (with the exception of the terrestrial invertebrates recorded at LWS Coed Cord, and Coed y Saeson), the magnitude of fragmentation impacts is therefore, considered to be **negligible.**

Sensitivity of the receptor

3.9.4.112 Given the presence of 10 species of conservation concern, the sensitivity of the receptor can be considered to be **medium.**

Significance of effect

3.9.4.113 Overall, the magnitude of impact is deemed to be negligible, and the sensitivity of receptor is considered to be medium. The effect will, therefore, be of **negligible** significance which is not significant in EIA terms.

The impact of habitat fragmentation on aquatic invertebrates during construction

Magnitude of impact

3.9.4.114 No protected or notable aquatic invertebrate species were identified during the desk study. The extended phase 1 habitat survey data identified 20 waterbodies and six watercourses that could be suitable habitat to support aquatic invertebrates.

3.9.4.115 Four of the six ponds subject to rapid assessment surveys were identified as supporting a diverse aquatic invertebrate assemblage (more than 10 families) and all of these waterbodies will be retained and not subjected to fragmentation impacts.

3.9.4.116 All six watercourses comprised a low aquatic invertebrate diversity (a maximum of two families) with assemblages of freshwater shrimp and water hog louse only. No protected or notable species were identified. None of the watercourses were suitable for white-clawed crayfish.

3.9.4.117 The Mona Offshore Wind Project has made a commitment to use trenchless techniques to cross seven of the ordinary watercourses where the Onshore Cable Route traverse them. None of the seven waterbodies were identified as being suitable for aquatic invertebrates. All waterbodies were assessed to be either unsuitable for aquatic invertebrates or have poor suitability for aquatic invertebrates. The haul road and a temporary access road in the Onshore Substation site will traverse all of the watercourses with pipe flumes used to accommodate the haul road. Best practice measures will be implemented during pipe flume installation and removal during

construction, as outlined in the Outline CoCP (Document Reference J26). This will minimise downstream impacts that could result from silt or soil entering the water course. Therefore, impacts on water quality will be minimal and short-term.

3.9.4.118 The impact from the temporary fragmentation to aquatic invertebrates is predicted to be negligible, given the low aquatic invertebrate diversity. The magnitude of impact is therefore, considered to be **negligible.**

Sensitivity of the receptor

3.9.4.119 Given the lack of diversity of aquatic invertebrates within the Mona Onshore Development Area, the sensitivity of the receptor to fragmentation impacts can be considered to be **low.**

Significance of effect

3.9.4.120 Overall, the magnitude of impact is deemed to be negligible, and the sensitivity of receptor is considered to be low. The effect will, therefore, be of **negligible** significance which is not significant in EIA terms.

Summary of habitat fragmentation effects during construction

3.9.4.121 Table 3.27 provides a summary of the effects identified for habitat fragmentation during construction.

Table 3.27: The significance of effect during construction of habitat fragmentation on IEFs.

IEFs	Magnitude of impact	Sensitivity of receptor	Significance of effect
Llanddulas Limestone and Gwrych Castle Wood SSSI	No change	High	**No change**, which is not significant in EIA terms
Traeth Pensarn SSSI	No change	High	**No change**, which is not significant in EIA terms
Coed y Gopa SSSI	Low	High	**Minor adverse**, which is not significant in EIA terms.
Coedydd ac Ogofau Elwy a Meichion SSSI	Low	High	**Minor adverse**, which is not significant in EIA terms.
Ancient Woodland	No change	High	**No change**, which is not significant in EIA terms
Local Wildlife Sites: Coed Cord and Coed y Season	Low	High	**Minor adverse**, which is not significant in EIA terms.
Semi-natural and plantation	Low	Medium	**Minor adverse**, which is not significant in EIA terms.
Broadleaved Parkland/Scattered Trees	Low	High	**Minor adverse**, which is not significant in EIA terms.
Calcareous Grassland	No change	Medium	**No change**, which is not significant in EIA terms
Hedgerows	Low	Medium	**Minor adverse**, which is not significant in EIA terms.

IEFs	Magnitude of impact	Sensitivity of receptor	Significance of effect
Rivers	Low	Medium	**Minor adverse**, which is not significant in EIA terms.
Bats	Low	High	**Minor adverse**, which is not significant in EIA terms.
Badger	Low	Medium	**Minor adverse**, which is not significant in EIA terms.
European eel	Low	High	**Minor adverse**, which is not significant in EIA terms.
Great Crested Newts	Negligible	Medium	**Minor adverse**, which is not significant in EIA terms.
Hazel Dormouse	Low	Medium	**Minor adverse**, which is not significant in EIA terms.
Otter	Low	Medium	**Minor adverse**, which is not significant in EIA terms.
Water vole	Low	Medium	**Minor adverse**, which is not significant in EIA terms.
Reptile - Common Lizard, Slow worm and Grass Snake	Negligible	Medium	**Minor adverse**, which is not significant in EIA terms.
Terrestrial Invertebrates	Negligible	Medium	**Negligble**, which is not significant in EIA terms.
Aquatic invertebrates	Negligible	Low	**Negligble**, which is not significant in EIA terms.

The impact of habitat fragmentation during operation for all IEFs

3.9.4.122 There will be no change to the existing or proposed habitats during operation. The cable will be buried underground with the substation being the only permanent infrastructure. The substation is confined to one fixed location, will not fragment any habitat, and will be enhanced with surrounding planting to improve local habitat connectivity. Habitat fragmentation associated with operation is not considered further.

The impact of habitat fragmentation during decommissioning for all IEFs

Magnitude of impact

3.9.4.123 As the onshore export cables are located away from the coastal vegetated habitat, there will be no habitat fragmentation at the intertidal area during decommissioning. The Mona Onshore Cable Corridor and the 400 kV Grid Connection Cable Corridor will remain in place, including at the crossing of ditches and streams and underneath sensitive habitats such as ancient woodlands and important hedgerows. Activity will be localised to the removal of link boxes which, may require very localised sections of hedgerow to be removed, and could give rise to minor temporary fragmentation impacts. This will be kept to a minimum where practicable.

3.9.4.124 The MDS includes the maximum footprint and therefore the largest possible area of habitat permanent or temporary habitat loss to ecological receptors. The

decommissioning includes the removal of the Onshore Substation and permanent access road, which may cause fragmentation impacts as a consequence of increase activities along the access road.

3.9.4.125 The magnitude is therefore, considered to be **low**.

Sensitivity of receptors

3.9.4.126 The 23 IEFs assessed in this chapter, have a sensitivity that ranges from medium to high. Therefore, for the purposes of the assessment a precautionary approach is applied, and it is assumed all receptors have **high** sensitivity.

Significance of the effect

3.9.4.127 Overall, the magnitude of impact is deemed to be low, and the sensitivity of the receptors are considered to be high. The effect will, therefore, be of **minor adverse** significance, which is not significant in EIA terms.

3.9.5 The impact of pollution caused by accidental spills/contaminant release for all IEFs

3.9.5.1 Activities required for the construction and decommissioning of the Mona Onshore Development Area may result in accidental spills/contaminant release (for example from storage of fuels/chemicals in the temporary construction compounds, bentonite breakouts from trenchless crossings and surface water run-off) which could adversely affect protected or notable habitats and species. The MDS is represented by the maximum number of temporary construction compounds and trenchless crossing locations along the Mona Onshore Cable Corridor and the 400kV Grid Connection Cable Corridor that would cause the greatest risk of a pollution incident and is summarised in Table 3.21.

3.9.5.2 As large-scale pollution events are unlikely and may occur at any point within the route and with similar consequences for all IEFs, all receptors have been considered equally in the assessment of this impact.

The impact of pollution caused by accidental spills/contaminant release during construction for all Important Ecological Features

Construction phase

Magnitude of impact

3.9.5.3 The embedded mitigation measures relating to pollution prevention during construction are outlined in the Outline Biosecurity Protocol (Document Reference J26.11). Although the likelihood of a pollution event occurring is low, should an event occur, the impact is predicted to be of local spatial extent, short-duration, intermittent and reversible. It is predicted that the impact will affect the receptor indirectly, given the measures adopted as detailed in Table 3.22. The magnitude is therefore, considered to be **negligible**.

Sensitivity of the receptor

3.9.5.4 The 23 IEFs assessed in this chapter, have a sensitivity that ranges from low to high. Therefore, for the purposes of the assessment a precautionary approach is applied, and it is assumed all receptors have **high** sensitivity.

Significance of the effect

3.9.5.5 Overall, the magnitude of impact is deemed to be negligible, and the sensitivity of the receptor is considered to be high. The effect will, therefore, be of **minor adverse** significance, which is not significant in EIA terms.

Table 3.28: Table summarising the significance of effect during the operations and maintenance phase of pollution caused by accidental spills/containment release.

Location	Species	Magnitude of impact	Sensitivity of receptor	Significance of effect
All areas in Mona Onshore Development Area	All receptors	Negligible	High	**Minor adverse,** not significant in EIA terms

The impact of pollution caused by accidental spills/contaminant release during decommissioning for all IEFs

Decommissioning

Magnitude of impact

3.9.5.6 Decommissioning activities within the Mona Onshore Development Area are to be less than those undertaken during the construction phase with the removal of link boxes which, which may require very localised sections of habitat to be removed which could result in a risk of pollution by accidental spills/containment release.

3.9.5.7 The Onshore Substation and the permanent access road will be removed. These demolition activities could also result in an increased risk of pollution by accidental spills/containment release, due to the increased number of vehicle and plant movements along the access road. Good practice construction techniques will apply throughout decommissioning and will therefore control and minimise such risks.

3.9.5.8 The magnitude is therefore, considered to be **low.**

Sensitivity of receptors

3.9.5.9 The 23 IEFs assessed in this chapter, have a sensitivity that ranges from medium to high. Therefore, for the purposes of the assessment a precautionary approach is applied, and it is assumed all receptors have **high** sensitivity.

Significance of the effect

Overall, the magnitude of impact is deemed to be low, and the sensitivity of the receptor is considered to be high. The effect will, therefore, be of **minor adverse significance**, which is not significant in EIA terms.

Table 3.29: Table summarising the significance of effect during decommissioning of pollution caused by accidental spills/containment release.

Area	Species	Magnitude of impact	Sensitivity of receptor	Significance of effect
All areas in Mona Onshore Development Area	All receptors	Low	High	**Minor adverse,** not significant in EIA terms

3.9.6 The impact of spreading INNS for all during construction and decommissioning on IEFs

3.9.6.1 Construction and decommissioning of the Mona Onshore Development Area may cause the spread of INNS, which could adversely affect the status protected or notable habitats and species. The MDS is represented by the greatest amount of land that will be disturbed and is summarised in Table 3.21.

3.9.6.2 Construction and decommissioning activities potentially involve the introduction and/or spread of invasive and non-native species through the movement of earth during works, including the digging of trenches and the use of machinery and presence of operating personnel. Both machinery and operating personnel have the potential to transport on their equipment (e.g. heavy machinery tracks or vehicle tyres or working clothing) (e.g. boots, seeds, or spores of invasive and non-native species from either within or outside the Mona Onshore Development Area).

3.9.6.3 The introduction, or unintentional spread of seeds, spores or other parts of plant material may result in the spread of plant species (e.g. Himalayan balsam *Impatiens glandulifera*, giant hogweed *Heracleum mantegazzianum* and water primrose *Ludwigia peploides*). These species have the potential to displace native species and to potentially replace or become dominant in those areas of habitat and change the community composition and structure. If wide scale habitat changes results from the spread of invasive and/or non-native species there is the potential to replace existing valuable habitat and supporting ecosystems that are used by protected or notable species.

3.9.6.4 However, these impacts would be controlled and minimised through the implementation of the biosecurity measures which are set out in the Outline Biosecurity Protocol (Document Reference J26.11).

The impact of spreading INNS during construction for all IEFs

Magnitude of impact

3.9.6.5 The Mona Onshore Development Area is dominated by improved and arable grassland (>70%), woodland and built environment as described in Volume 7, Annex 3.3: Extended Phase 1 Habitat Technical Report of the Environmental Statement. These habitats are not likely to be vulnerable to large scale habitat change resulting from changes in plant species composition as a consequence of the spread of native or non-native plant species.

3.9.6.6 Water courses or bodies are more susceptible to the spread of invasive or non-native species, including curly waterweed *Lagarosiphon major* and floating pennywort *Hydrocotyle ranunculoides*, however these habitats are far less abundant in the Mona Onshore Development Area with ponds only comprising 0.1% of the habitat present.

3.9.6.7 With the mitigation measures implemented as part of the Biosecurity Protocol, the impact is predicted to be of local spatial extent, short/medium term duration, and high reversibility. It is predicted that the impact will affect the receptor indirectly. The magnitude is therefore, considered to be **negligible.**

Sensitivity of receptors

3.9.6.8 The 23 IEFs assessed in this chapter, have a sensitivity that ranges from medium to high. Therefore, for the purposes of the assessment a precautionary approach is applied, and it is assumed all receptors have **high** sensitivity.

Significance of the effect

3.9.6.9 Overall, the magnitude of the impact during construction is deemed to be negligible and the sensitivity of the receptors are considered to be high, The effect will, therefore, be **minor adverse,** which is not significant in EIA terms.

Table 3.30: Table summarising the significance of effect during construction caused by the spreading of INNS.

Area	Species	Magnitude of impact	Sensitivity of receptor	Significance of effect
All areas in Mona Onshore Development Area	All receptors	Negligible	High	**Minor adverse,** not significant in EIA terms

Decommissioning

Magnitude of impact

3.9.6.10 Decommissioning activities within the Mona Onshore Development Area are to be less than those carried out during the construction phase with only the link boxes and the Onshore Substation being removed whilst all cable will be left underground. Therefore, taking a precautionary approach, for the purpose of this assessment it is assumed that the risk of the spread of INNS during the decommissioning phase is equal to that during the construction phase.

3.9.6.11 With the mitigation measures implemented as part of the Biosecurity Protocol, the impact is predicted to be of local spatial extent, short/medium term duration, and high reversibility. It is predicted that the impact will affect the receptor indirectly. The magnitude is therefore, considered to be **negligible.**

Sensitivity of receptors

3.9.6.12 The 23 IEFs assessed in this chapter, have a sensitivity that ranges from medium to high. Therefore, for the purposes of the assessment a precautionary approach is applied, and it is assumed all receptors have **high** sensitivity.

Significance of the effect

3.9.6.13 Overall, the magnitude of the impact during construction is deemed to be negligible and the sensitivity of the receptors are considered to be high, The effect will, therefore, be **minor adverse,** which is not significant in EIA terms.

3.9.7 Further mitigation and residual effects

3.9.7.1 No further mitigation is proposed at this stage. When the detailed design of other elements of the Mona Offshore Wind Project are evolved, further opportunities for retaining existing habitats would be sought where feasible to do so. For example, further micro-siting opportunities at the boundary of the Onshore Substation footprint.

3.10 Future monitoring

3.10.1.1 Monitoring for bats, hazel dormice, Water vole, otters, and badgers would be required prior to and during the further construction as these are dynamic species whose centres of activity can change over time. Therefore, up to date data on their activity would better inform potential effects as a result of construction and inform where addition mitigation measures could be required, such as avoidance of Water vole burrows, otter holts and badger setts or identify the need for appropriate licencing to disturb them (where applicable).

3.10.1.2 Continued monitoring of the populations of badgers, bats, Hazel Dormouse, GCN and reptiles would be conducted to determine the success of the measures implemented, as set out in Table 3.22. This would inform how the relevant populations were performing against baseline levels and identify if any additional measures would be required, if there were signs that populations were declining, and any remedial measures are required, such as changes to habitat creation or enhancement areas to ensure the revised measures were successful.

3.10.1.3 Monitoring of any habitat creation would also be required to determine its success and to inform whether any remediation works were required. As set out in Table 3.22, the Outline LEMP (Document Reference J22) would detail the frequency of the monitoring and would include mechanisms to allow for alterations to be made to ensure habitat creation was successful, such as alterations to mowing regimes to encourage species diversity in grassland and replacement planting should any tree planting fail.

3.10.1.4 Table 3.31 below outlines the proposed monitoring commitments for onshore ecology.

Table 3.31: Monitoring commitments.

Environmental effect	Monitoring commitment	Means of implementation
Badger	Ongoing monitoring of sets in 2024 and pre-construction surveys	The requirement to obtain relevant EPS mitigation licences and other licenses is included in the Other Consents and License Required (Document Reference J1) and secured as a requirement of the draft DCO (Document Reference C1.
Bats	Hibernation surveys of the trees that will be lost to the development (in line with the new bat mitigation guidelines (Collins 2023) and monitoring of areas prior to hedgerow creation and enhancement to be able to assess if the mitigation measures are successful.,	
Hazel Dormouse	Ongoing monitoring of habitats within and adjacent to the Mona Onshore Development Area in 2024. monitoring of areas prior to hedgerow creation and enhancement to be able to assess if the mitigation measures are successful,	

Environmental effect	Monitoring commitment	Means of implementation
GCN	Ongoing monitoring of ponds in 2024 in consultation with NRW, ARC and the St Asaph GCN steering group to minimise disruption and co-ordinate surveys.	
Habitats	Pre-construction survey of all hedgerows with the aim to provide advice on the less valuable sections of hedgerow to be removed, if required	Part of detailed LEMP, to be developed in general accordance with the Outline LEMP (Document Reference J22) and secured as a requirement of the draft DCO (Document Reference C1).
Reptiles	Monitoring of sites where access was not possible in 2023 or a full suite of surveys was not completed due to seasonal constraints.	

3.11 Cumulative effect assessment methodology

3.11.1 Methodology

3.11.1.1 The Cumulative Effects Assessment (CEA) takes into account the impact associated with the Mona Offshore Wind Project together with other projects and plans. The projects and plans selected as relevant to the CEA presented within this chapter are based upon the results of a screening exercise (see Volume 5, Annex 5.1: CEA screening matrix). Each project has been considered on a case-by-case basis for screening in or out of this chapter's assessment based upon data confidence, effect-receptor pathways and the spatial/temporal scales involved.

3.11.1.2 The onshore ecology CEA methodology has followed the methodology set out in Volume 1, Chapter 5: EIA methodology of the Environmental Statement. As part of the assessment, all projects and plans considered alongside the Mona Offshore Wind Project have been allocated into 'tiers' reflecting their current stage within the planning and development process, these are listed below.

3.11.1.3 A tiered approach to the assessment has been adopted using the following categories:

- Tier 1: the Mona Offshore Wind Project considered alongside:
  - Projects under construction
  - Permitted application
  - Submitted application
  - Projects which are currently operational but were not operational when baseline data were collected, and/or those that are operational but have an ongoing impact
- Tier 2: the Mona Offshore Wind Project considered alongside:
  - Scoping report has been submitted and is in the public domain
- Tier 3: the Mona Offshore Wind Project considered alongside Tier 1 and Tier 2 projects, as well as projects where:
  - The scoping report has not been submitted.
  - The project is identified in a relevant development plan.
  - The project is identified in other plans and programmes.

3.11.1.4 This tiered approach is adopted to provide a clear assessment of the Mona Offshore Wind Project alongside other projects, plans and activities.

3.11.1.5 The specific projects, plans and activities scoped into the CEA, are outlined in Table 3.32.

3.11.1.6 National Grid Electricity Transmission (NGET) are proposing to undertake upgrades to their Bodelwyddan substation to facilitate the connection of multiple projects (e.g. Awel y Môr). The upgrades will comprise works to the existing substation, an extension to the Onshore Substation and associated works and infrastructure (e.g. new overhead gantries).

3.11.1.7 It is understood that works to the existing substation will be undertaken via NGET's permitted development rights. The proposed extension to Bodelwyddan substation will require planning consent. On 10th October 2023, National Grid began its consultation on the extension of its substation. The proposal is to extend the substation by up to

8,800 m^2: it will include areas for new gantries, an access road and developer cable sealing end, Within the NG substation, a new building is proposed that will house equipment and will have a footprint of approximately 1,263 m^2. The layout will be in a similar position as the existing substation and will be the same height.

3.11.1.8 Where the potential significant effect for the Mona Offshore Wind Project alone is assessed as negligible, or where an impact is predicted to be highly localised, these have not generally been considered within the CEA, as there is not considered to be a potential for cumulative effects with other plans, projects, or activities.

Table 3.32: List of other projects, plans and activities considered within the CEA.

Project/Plan	Planning Status	Distance from the Mona Onshore Development Area (km)	Distance from the Onshore Substation (km)	Description of project/plan	Dates of construction (if applicable)	Dates of operation (if applicable)	Overlap with the Mona Offshore Wind Project
Tier 1							
Awel y Môr Offshore Wind Farm (Onshore infrastructure)	Application determined	0.00	0.1	Application for the construction of a 500 MW offshore windfarm. Consent granted in Q3 2023.	2024 to 2027	2030 to 2055	Yes
Major Development 40/2017/1232	Approved with conditions	0.64	1.09	Application for the erection of the seven industrial units with associated parking, landscaping, and external storage areas	Not provided but assumed to overlap with the Mona Offshore Wind Project	N/A	Yes
Major Development: 0/42900	Approved with conditions	0.32	9.15	Erection of 156 dwellings, access works and landscaping.	Not provided but assumed to overlap with the Mona Offshore Wind Project	N/A	Yes
Major Development: 0/44621	Approved with conditions	0.98	11.82	Demolition of single-story extensions to and the remodelling and refurbishment of the Fair View Inn into a house. The construction of 24 new build apartments	Not provided but assumed to overlap with the Mona Offshore Wind Project	N/A	Yes
Major Development: 0/47217	Approved with conditions	0.90	8.12	Residential housing estate consisting of 14 dwellings (Outline application).	Not provided but assumed to overlap with the Mona Offshore Wind Project	N/A.	Yes

Project/Plan	Planning Status	Distance from the Mona Onshore Development Area (km)	Distance from the Onshore Substation (km)	Description of project/plan	Dates of construction (if applicable)	Dates of operation (if applicable)	Overlap with the Mona Offshore Wind Project
Major Development: 0/48393	Approved with conditions	0.90	8.12	Details of the appearance of the development 0/47217 and the landscaping to the development site	Not provided but assumed to overlap with the Mona Offshore Wind Project	N/A.	Yes
Major Development: 0/49141	Approved with conditions	0.97	8.04	Demolition of existing buildings and erection of an over 55s affordable housing development, access, parking, landscaping, drainage infrastructure and associated development.	Not provided but assumed to overlap with the Mona Offshore Wind Project	N/A	Yes
Major Development: 0/50854	Approved with conditions. Application submitted 22/06/2023	1.03	7.94	Certificate of Lawful Development for the siting of 393 static caravan units with 12-month occupancy in any year plus 12 touring caravans with occupancy between 21st March and 31st October inclusive.	Not provided but assumed to overlap with Mona Offshore Wind Project	Not provided but assumed to overlap with Mona Offshore Wind Project	Yes
Major Development 46/2021/0159	Approved with conditions.	0.23	0.80	Application for the redevelopment of c.6.9 ha of land incorporation: erection of a commercial vehicle sales unit. Formation of associated parking area, landscaping, and associated works. Outline Planning application for the erection of five business buildings with all other matters reserved for further approval.	Not provided but assumed to overlap with the Mona Offshore Wind Project	N/A	Yes
Major Development: 0/43877	Approved with conditions	1.02	11.68	Demolition of derelict dwelling and outbuildings, proposed residential development of 15 no. dwellings including road widening (outline planning permission) ((Approval of Matters Reserved for Subsequent Approval Under Code Ref. 0/37619)	Not provided but assumed to overlap with the Mona Offshore Wind Project	N/A	

Project/Plan	Planning Status	Distance from the Mona Onshore Development Area (km)	Distance from the Onshore Substation (km)	Description of project/plan	Dates of construction (if applicable)	Dates of operation (if applicable)	Overlap with the Mona Offshore Wind Project
Major Development: 40/2021/0309		1.01	1.56	Erection of a 198 bed Registered Care Home (Use Class C2), landscaping, parking facilities and associated works (Resubmission)	Construction to commence in 2024.	N/A	
Tier 3							
St Asaph Solar Farm	Pre-application	0.00	0.87	A proposed solar farm with a potential generating capacity of between 10MW and 350Mw.	Not provided but assumed to overlap with Mona Offshore Wind Project	Not provided but assumed to overlap with Mona Offshore Wind Project	Yes
NGET 31/2023/0525	Pre-application (EIA screening request)	0.03	0.41	Extension to the existing Bodelwyddan electricity substation (EIA Screening Opinion request).	Not provided but assumed to overlap with Mona Offshore Wind Project	Not provided but assumed to overlap with Mona Offshore Wind Project	Yes
NGET	Pre-application	0.03	0.41	Application under section 37 of the Electricity Act 1989 for the installation of new overhead lines.	Not provided but assumed to overlap with Mona Offshore Wind Project	Not provided but assumed to overlap with Mona Offshore Wind Project	Yes
NGET	Pre-application	0.03	0.41	Permitted development comprising extension to the GIS hall required to facilitate the extension to the existing Bodelwyddan electricity substation	Not provided but assumed to overlap with Mona Offshore Wind Project	Not provided but assumed to overlap with Mona Offshore Wind Project	Yes

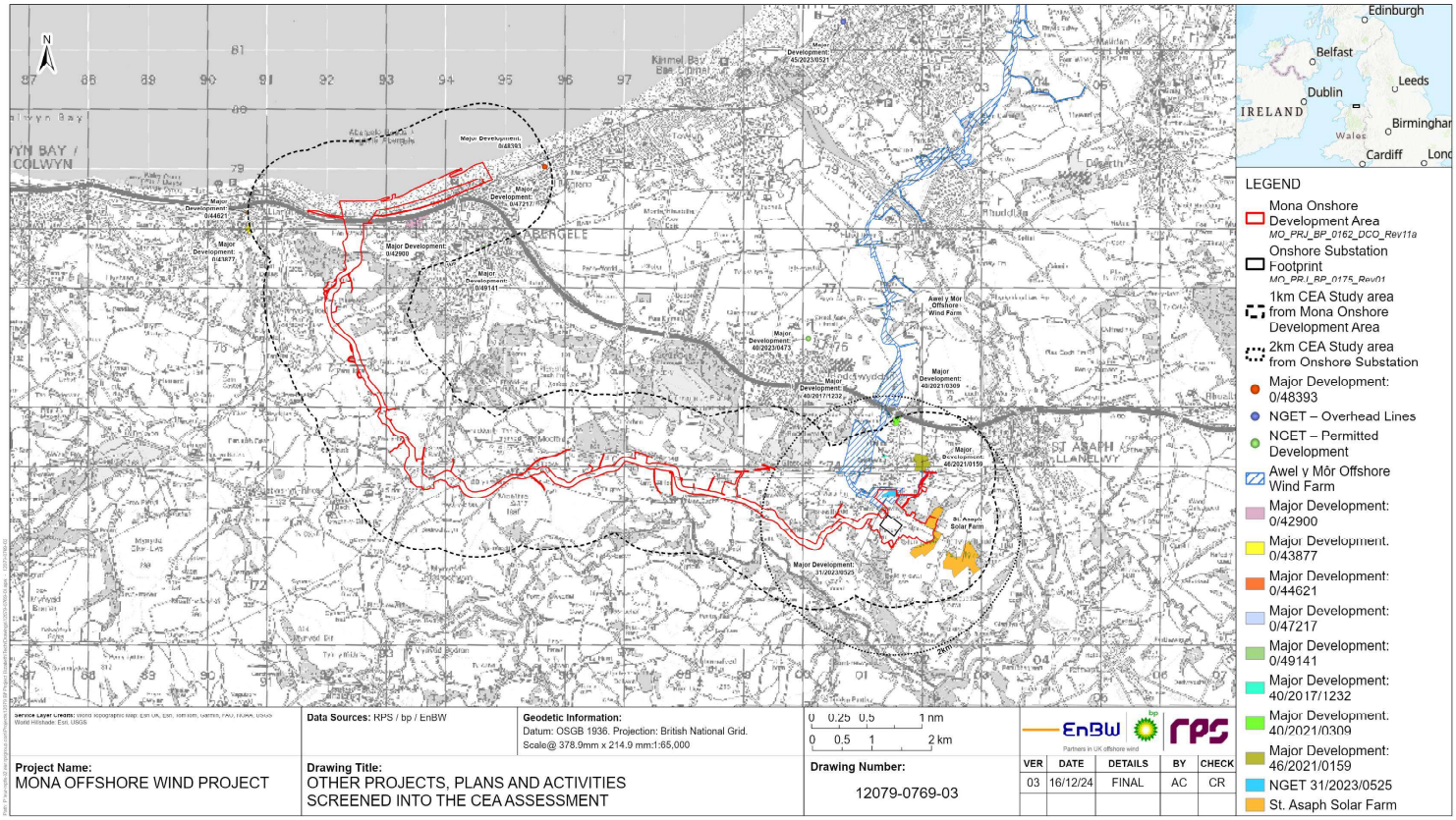

Figure 3.3: Other projects, plans and activities screened into the cumulative effects assessment.

3.11.2 Maximum Design Scenario

3.11.2.1 The MDS identified in Table 3.21 have been selected as those having the potential to result in the greatest effect on an identified receptor or receptor group. The cumulative effects presented and assessed in this section have been selected from the Project Design Envelope provided in Volume 1, Chapter 3: Project description, of the Environmental Statement as well as the information available on other projects and plans, in order to inform an MDS. Effects of greater adverse significance are not predicted to arise should any other development scenario, based on details within the Project Design Envelope (e.g. different wind turbine layout), to that assessed here, be taken forward in the final design scheme.

3.11.2.2 The CEA has considered the Mona Offshore Wind Project, alongside the National Grid Bodelwyddan substation extension proposal. The information publicly available up to three months before application (see Volume 1, Chapter 3: Environmental Impact Assessment Methodology of the Environmental Statement) was considered in this CEA. The CEA has therefore been undertaken based on the latest available information in the public domain up to the 21 November 2023, which is the Autumn 2023 consultation material (National Grid, 2023). If further information is available for the proposal before the Mona Offshore Wind Project receives Development Consent, the Applicant will review the information and provide any update needed to the CEA.

3.11.2.3 The MARES Connect project is proposing to submit a planning application in 2024 for an interconnector cable, landfall, and onshore substation with connection to the National Grid. The project has identified several landfall zones and zones for its onshore substation and there is the potential for overlap with the Mona Onshore Development Area. The CEA has not considered the Mona Offshore Wind Project, alongside the MARES Connect project as insufficient information was publicly available prior to the Mona Offshore Wind Project DCO submission (see Volume 1, Chapter 5: Environmental Impact Assessment Methodology of the Environmental Statement). However, if further information becomes available for the proposal before the Mona Offshore Wind Project receives Development Consent, the Applicant will review the information and provide any update needed to the CEA.

Table 3.33: Maximum design scenario considered for the assessment of potential cumulative effects on onshore ecology.

[a] C=construction, O=operations and maintenance, D=decommissioning

Potential cumulative effect	Phase[a]			MDS	Justification
	C	O	D		
Temporary and permanent habitat loss during construction, decommissioning of the Mona Offshore Wind Project.	✓	×	✓	MDS as described for the Mona Offshore Wind Project (Section 3.7.1) assessed cumulatively with the following other projects/plans: **Tier 1** • Awel y Môr Offshore Wind Farm (onshore infrastructure) • Major Development 40/2017/1232 • Major Development 46/2021/0159 • Major Development: 0/42900 • Major Development: 0/44621 • Major Development: 0/47217 • Major Development: 0/48393 • Major Development: 0/49141 • Major Development: 0/43877 • Major Development: 40/2021/0309 **Tier 3** • St Asaph Solar Farm • Major Development 31/2023/0525 (NGET) • NGET – overhead lines • NGET – Permitted development	The MDS assumes that there is an overlap in the construction timeframes of these projects, and the Mona Offshore Wind Project.
Habitat disturbance during construction, operation, and maintenance, and decommissioning of the Mona Offshore Wind Project.	✓	✓	✓		
Habitat fragmentation and species isolation during construction, operation and maintenance and decommissioning of the Mona Offshore Wind Project.	✓	✓	✓		
Pollution caused by accidental spills/contaminant release during construction and decommissioning of the Mona Offshore Wind Project.	✓	×	✓		

Potential cumulative effect	Phase[a]			MDS	Justification
	C	O	D		
The spread of Invasive and Non-native Species (INNS) during construction and decommissioning of the Mona Offshore Wind Project	✓	×	✓		

3.12 Cumulative effects assessment

3.12.1 Overview

3.12.1.1 The 1 km study area distance used for the purposes of the CEA was based on the approach adopted for other NSIPs, including Awel y Môr Offshore Wind Farm and Hornsea 3 Offshore Wind Farm. Awel y Môr Offshore Wind Farm adopted a 500 m study area for the CEA, while Hornsea 3 Offshore Wind Farm used a 1 km study area. A 1 km study was chose for the Mona Onshore Cable Corridor and the 400 kV Grid Connection was adopted. As a precautionary approach, a 2 km study area distance was chosen for the Onshore Substation Area was adopted.

3.12.1.2 A description of the significance of cumulative effects upon IEFs for all impacts identified in this project has been considered.

3.12.1.3 Eleven Tier 1 projects/plans have been identified as having potential cumulative impact pathways with the Mona Offshore Wind Project.

3.12.1.4 None of the Tier 1 projects identified will result in the following impacts:

- Habitat fragmentation and species isolation
- Pollution caused by accidental spills/contaminant release
- Spreading INNS.

3.12.1.5 Such impacts are either not identified with the project information, or the project is of a scale and at a distance from the Mona Onshore Development Area that such impacts are extremely unlikely, or they will be addressed with standard best practice measures implemented during construction. Therefore, these impacts are not considered further in the CEA.

3.12.1.6 The impacts of temporary or permanent habitat loss and habitat disturbance are assessed, to differing extents, for onshore ecology in the Awel y Môr Offshore Wind (Environmental Statement, Volume 3, Chapter 3.5: Onshore Biodiversity and Nature Conservation (RWE Renewables UK, 2022)), and major developments references: 46/2021/0159, 40/2021/0309 and 0/42900.

3.12.1.7 A review of these assessments, even if only initial, has enabled the significance of cumulative impacts to be assessed for both temporary or permanent habitat loss and habitat disturbance.

3.12.1.8 No Tier 2 projects and plans have been identified in the screening process for this chapter's assessment which have effect-receptor pathways. A full list of projects and plans reviewed for the CEA assessment are presented in Volume 5, Annex 5.1: CEA screening matrix of the Environmental Statement.

3.12.1.9 Five Tier 3 have been identified as having potential cumulative impact pathways with the Mona Offshore Wind Project.

3.12.1.10 Outline development information is available for the NGET projects and a review of this information has enabled a broad assessment of cumulative impacts. It should be noted that this development information is subject to change and the cumulative impact assessment is therefore not definitive.

3.12.1.11 No development information is available for the other Tier 3 projects other than location. Therefore, there is insufficient information to undertake a reliable estimate of cumulative impacts.

3.12.1.12 For all projects where detailed development information is not currently provided, if further information becomes available before the Mona Offshore Wind Project receives Development Consent, the Applicant will review the information and provide any update needed to the CEA.

3.12.2 Temporary or permanent habitat loss

Tier 1

Construction and decommissioning phase

Magnitude of impact

Designated sites

3.12.2.1 Due to their small scale and/or their physical distance from nearby nature conservation designations, none of the other Tier 1 projects identified any potential impacts on nature conservation designations. These receptors are not considered further under temporary or permanent habitat loss.

Great crested newts

3.12.2.2 The Awel y Môr Offshore Wind Farm Project is due to begin construction in 2025 and there is a temporal overlap with the Mona Offshore Wind Project construction programme. The stated programme for the Awel y Môr Offshore Wind Farm Project is up to 27 months for the substation and 18 months for the cable with some possible overlap between the two phases.

3.12.2.3 There is also a physical overlap between the Awel y Môr Offshore Wind Farm Project cable route and temporary construction areas, and Section 9 (Onshore Substation) of the Mona Onshore Development Area.

3.12.2.4 In the absence of information to confirm otherwise it is assumed all habitats within the overlapping section of the Awel y Môr Offshore Wind Farm Project will be lost. The overlapping area excludes permanent above ground infrastructure so it is assumed that this habitat loss will be temporary. Habitat loss in the overlapping area will comprise hedgerows including some mature trees, and agricultural grassland of low ecological. These habitats are within 500 m of ponds with GCN presence identified in the baseline studies for both projects. Therefore, they form part of the wider extent of terrestrial habitat used by the large population of GCN with the Mona Onshore Development Area and which forms part of the St Asaph's GCN meta-population.

3.12.2.5 The habitats affected fall outside of the cable route and temporary construction compounds for the Mona Onshore Development Area but will form part of the wider mitigation area which will be subject to revised grassland management to benefit GCN.

3.12.2.6 The Awel y Môr Offshore Wind Farm Project outline LEMP specifies that all temporary habitat loss will be reinstated within 18 months.

3.12.2.7 The Awel y Môr Offshore Wind Farm Project will also result in the temporary and permanent loss of additional terrestrial habitat outside of the Mona Onshore Development Area but within the core terrestrial habitat for the St Asaph's GCN metapopulation. Permanent loss in this location will be 5 ha. Temporary loss is not quantified but will be significant proportion of the 10.56 ha total temporary habitat loss for GCN across the whole scheme.

3.12.2.8 Further impacts of temporary terrestrial habitat loss are identified for the Awel y Môr Onshore Wind Farm Project cable route. However, these are located over 1.5 km from the Mona Onshore Development Area and separated from it by the A55 North Wales Expressway which is likely to be a very significant barrier to the movement of GNC between the St Asaph's meta population and the other populations to the north. Cumulative impacts are therefore considered to be restricted to those affecting the St Asaph's metapopulation and its core terrestrial habitat.

3.12.2.9 The proposed development as St Asaph's Business Park (Major Development: 46/2021/0159) will have a temporal overlap with the Mona Offshore Wind Project, with construction condition to start before 28 March 2027 and reserved matters to be submitted before 29 March 2025. The development site is a brownfield site of approximately 6.9 ha and comprising habitats that have formed over hardcore and made ground, including broad-leaved woodland, species rich-neutral grassland and scattered scrub.

3.12.2.10 An EPS mitigation license is in place for the site base on the existing Cofnod data on GCN presence in the wider locality and following the strategic approach to GCN mitigation developed for the St Asaph's business park. There are no ponds within the site, but the development will result in temporary loss of 1.84 ha of suitable terrestrial habitat during construction, with a net loss of 0.44 ha of suitable habitat to be mitigated with enhancement within retained mitigation habitats. These habitats fall within the core area of terrestrial habitat of the St Asaph's GCN metapopulation.

3.12.2.11 Major Development: 40/2021/0309 does not physically overlap with the Mona Onshore Development Area. The site is included in an existing GCN mitigation licence covering the St Asaph Business Park and is surrounded by GCN exclusion fencing which is maintained under the licence. The developer would be required to take over responsibility for the long-term implementation of the licence as it relates to the site. As the site is currently fenced and maintained the likelihood of GCN presence is very low. At the time of writing no details of the proposed site mitigation for GCN were available.

3.12.2.12 Major development: 0/42900 is located 0.97 km from the Mona Onshore Development are and comprises 4.62 ha of grassland, scrub, and tree planting with three ponds. The consultation response from NRW identified the possibility of GCN presence in the ponds but no further information was available on GCN presence or mitigation. The stie is located 0.97 km from the Mona Onshore Development Area, which is much further than the 500 m which is the more typical maximum distance GCN will move from breeding ponds (Natural England, 2021). It is extremely unlikely that GCN from these ponds will use habitats within the Mona Onshore Development Area and therefore there would be no cumulative impact.

3.12.2.13 No other Tier 1 projects identified GCN as a potential consideration.

3.12.2.14 While there will be a short to medium temporary loss of habitat, there would be an overall beneficial impact in the long term. Delivery of the embedded mitigation within the Awel y Môr Offshore Wind Farm Project and the Mona Offshore Wind Project will result in the creation of extensive terrestrial habitat and ponds increasing both the extent and quality of habitats which currently exist. The Awel y Môr Offshore Wind Farm Project GCN mitigation proposals include creation of four new ponds which will be complementary to the mitigation delivered by the Mona Offshore Wind Project in strategically enhancing the core habitat of the St Asaph's GCN metapopulation. The progression of the development ref: 40/2021/0309 is conditioned on the submission of

detailed GCN mitigation which would need to comply with the St Asaph' business park licence. The magnitude of any cumulative impact is therefore, considered to be low.

Bats

3.12.2.15 The Awel y Môr Offshore Wind Farm Offshore Wind Project identifies the loss of 41 trees with bat roost potential. Of these, one tree with a confirmed roost common pipistrelle day roost and six trees with moderate bat roost potential are within the physical overlap between the Awel y Môr Offshore Wind Farm Project and the Mona Onshore Development Area. A further five confirmed tree roosts (two soprano pipistrelle day roosts, a common pipistrelle day roost a noctule day roost and a common pipistrelle maternity roost) and 29 trees with moderate or high potential are within the core sustenance zones (the radius around a bat roost within which the habitat forms a key foraging resource for the roost).

3.12.2.16 Of the roosts within the Awel y Môr Offshore Wind Farm Project, all except the common pipistrelle maternity roost are of low conservation status with small numbers of common bats. Typically, such roosts are used by bats occasionally along with other potential roost features of which there are many within the Mona Onshore Development Area (814 trees identified with bat roost potential). The common pipistrelle maternity roost has more significance for conservation, but its value is still limited because common pipistrelle is very common and widespread.

3.12.2.17 The cumulative impact on bat roosts falls disproportionately under the Awel y Môr Offshore Wind Farm Offshore Wind Project, with six roosts lost including a maternity roost, compared to one roost lost under the Mona Offshore Wind Project. The total loss of potential roost features is small as a portion of those present across the Mona Onshore Development Area and is also disproportionately due to the Awel y Môr Offshore Wind Farm Project.

3.12.2.18 Cumulative impacts on bat foraging and commuting will result from the loss of hedgerows and trees within the Awel y Môr Offshore Wind Farm Project close to the Onshore Substation where these habitats fall within the core sustenance zones bat tree roosts, adjoining the Onshore Substation area. The additional loss of bat foraging habitat resulting from the Awel y Môr Offshore Wind Farm Project will affect only a tiny proportion of the total available habitat within the Mona Onshore Development Area and surrounding landscape.

3.12.2.19 Both the Awel y Môr Offshore Wind Farm Project, and the Mona Offshore Wind Project will deliver species protection measures and mitigation for impacts on bats through NRW EPS mitigation licensing.

3.12.2.20 Major Development ref: 0/49141 proposes the demolition of two buildings with low and moderate bat roost potential as part of the development. Bat surveys were conducted in summer 2021 and did not find any bat roosts. Major Development 0/44621 also proposes the demolition of a single building with low bat roost potential. Bat emergence surveys were undertaken on the building in 2017 and no bat roosts were found. Major development 0/47217 also proposes the demolition of a building with low bat roost potential. No emergence surveys were recommended or undertaken.

3.12.2.21 There is the potential for bats to have established roosts in these buildings in the intervening time since the surveys were undertaken. All buildings are in urban or semi-urban areas, and taking a precautionary approach based on the moderate and low potential of the buildings it is assumed the buildings support small summer day roosts of common and widespread species such as pipistrelle.

3.12.2.22 Given their distance from the Mona Onshore Development Area, potential foraging habitats within the Mona Onshore Development would be only a small proportion of the total foraging habitat used by bats in roosts in Major development ref: 0/49141 Major development 0/44621 and Major development 0/47217. Suitable habitats within the Mona onshore Development and within range of the roosts will be retained and protected.

3.12.2.23 Taking into account the relatively low conservation status of the bat roosts affected by the Awel y Môr Offshore Wind Farm Project, the proportionate distribution of these impacts under the Awel y Môr Offshore Wind Farm Project, the very small scale of bat roost impacts associated with other Tier 1 developments, and the very small proportion of bat foraging habitat that will be affected, the cumulative impact on bats will be of low magnitude.

Badger

3.12.2.24 The Awel y Môr Offshore Wind Farm Project will result the temporary loss of badger foraging habitat along the cable route which includes a small extent of improved grassland and hedgerows within the Physical overlap with the Mona Onshore Development Area. Badger is widespread and common locally and there is abundant suitable badger foraging habitat including, improved and semi-improved grassland and arable within the Mona Onshore Development Area and wider local landscape.

3.12.2.25 Pending further surveys to be undertaken in 2024, the Mona Offshore Development will result in the closure of one main badger. The sett is one of 105 identified in the badger survey area for the Mona Offshore wind project. No badger sett closures are proposed for Awel y Môr Offshore Wind Farm Project

3.12.2.26 No other Tier 1 projects identified potential impacts on badger.

3.12.2.27 The cumulative impact on badger in terms of loss of foraging habitat and sett closures will be small proportion of the total setts and foraging habitat within and around the Mona Onshore Development Area. The cumulative impact will therefore be low.

Reptiles

3.12.2.28 The Awel y Môr Offshore Wind Farm Project identified the possibility of temporary habitat loss impacts on reptiles due to the presence of suitable (although sub-optimal) habitat and an offsite population of common lizard. The proposed GCN mitigation for the Awel y Môr Offshore Wind Farm Project will also include species protection measures to avoid impacts of reptiles.

3.12.2.29 The GCN mitigation delivered for the Awel y Môr Offshore Wind Farm Project, and the Moan Offshore Wind Project will have a long-term beneficial impact for reptiles by increasing the extent and suitability of reptile habitat with the respective development sites.

3.12.2.30 Given the absence of reptiles within the Awel y Môr Offshore Wind Farm Project development area, and the low predicted impact on reptiles of the Mona Offshore Wind Project, the cumulative impact would be of low magnitude.

Hedgerows

3.12.2.31 The Awel y Môr Offshore Wind Farm Project will result in a small extent of temporary and permanent hedgerow loss within the Onshore Substation part of the Mona Onshore Development Area. While there will be a medium-term adverse impact, the

proposed mitigation planting including new hedgerows, will, once established provide a small net increase in these habitats The cumulative impact would not be of low magnitude.

3.12.2.32 Reinstatement of removed hedgerows where possible, along with extensive new native species-rich hedgerow planning is proposed as part of the mitigation measures for the Mona Offshore Wind Project. In the medium to long term this will have a beneficial effect with gains in terms of hedgerow extent and ecological quality.

All other onshore ecology receptors

3.12.2.33 For the Tier 1 Projects not referred to in relation to potential effects described above, no potential impacts were identified in the relevant ecological studies on any species or habitats relevant to the Mona Offshore Wind Project.

3.12.2.34 Therefore, there will be no cumulative impacts. These receptors are not considered further under temporary/permanent habitat loss.

Sensitivity of the receptor

Hedgerows

3.12.2.35 Hedgerows provide important connectivity for a species such as Hazel Dormouse and bats but would have the ability to establish following a planting and management regime. Therefore, the sensitivity of the receptor is considered to be medium.

Great Crested Newts

3.12.2.36 It is considered that the sensitivity of the receptor is medium as GCN is medium conversation importance and has medium ability to recover.

Bats

3.12.2.37 The presence of 10 species of bat is not high given the extent of the survey area, and most of the activity was of common and widespread species. However, the significance of the Mona Onshore Development Area for lesser horseshoe bat (national value) and Leisler's bat (district value) along with the overall assemblage of bats across the extent of the Mona Onshore Development Area, means that the Mona Onshore Development Area is considered to be of national value for bats and, as such, is considered to be high sensitivity.

Badger

3.12.2.38 While they are widespread within the Mona Onshore Development Area, badger are quite susceptible to development impacts. Therefore, the sensitivity of the receptor is considered to be medium.

Reptiles

3.12.2.39 The sensitivity of the receptor is considered to be medium as small numbers of reptile individuals were encountered during the surveys and given the sub-optimal value of the habitats present.

Significance of effect

Hedgerows

3.12.2.40 The magnitude of the impact will be moderate, and the sensitivity of the receptor is moderate. There would be a short-term adverse effect, following hedgerow reinstatement and new hedgerow planting, there would be a medium to long term **minor beneficial** effect. which is not significant in EIA terms.

Great Crested Newts

3.12.2.41 Overall, the magnitude of the cumulative impact is considered to be low. Given the medium sensitivity of the receptor, the effect will, be of **minor beneficial** significance which is not significant in EIA terms.

Bats

3.12.2.42 Overall, the magnitude of impact is deemed to be low, and the sensitivity of receptor is considered to be high. The effect will, therefore, be of **minor adverse** significance which is not significant in EIA terms.

Badger

3.12.2.43 Overall, the magnitude of cumulative impact is deemed to be low, and the sensitivity of receptor is considered to be medium. The effect will, therefore, be of **minor adverse** significance which is not significant in EIA terms.

Reptiles

3.12.2.44 With the delivery of GCN mitigation that will also benefit reptiles, the low magnitude cumulative impacts on this receptor of medium sensitivity will be of **minor beneficial** significance, which is not significant in EIA terms.

Tier 3

Construction and decommissioning phase

Magnitude of impact

Great Crested Newts

3.12.2.45 The NGET developments have a physical overlap with the Mona Onshore Development Area. These projects combined are at a small scale compared to the Mona Onshore Wind Project and St Asaph's Solar Farm. There would, however, be some temporary and permanent loss of potential GCN habitat within the wider St Asaph's GCN metapopulation as result of the NGET substation extension, temporary construction compounds and overhead power line installation.

3.12.2.46 Taking a precautionary approach to the NGET impacts and considering the GCN mitigation delivered through the Mona Offshore Wind Project, the overall cumulative impacts is negligible.

3.12.3 Habitat disturbance

Tier 1

Construction, operation, maintenance, and decommissioning

Magnitude of impact

Designated sites

3.12.3.1 Due to their small scale and/or their physical distance from nearby nature conservation designations, none of the other Tier 1 projects identified any potential impacts on nature conservation designations. These receptors are not considered further under habitat disturbance.

All habitats

3.12.3.2 None of the Tier 1 projects identified habitat disturbance in relation to habitats alone (as opposed to disturbance of faunal species using the habitats). Therefore, habitats alone are not considered further under habitat disturbance.

Bats

3.12.3.3 Only one Tier 1 Project, the Awel y Môr Offshore Wind Project, has a temporal and physical overlap with the Mona Offshore Wind Project, which could result in cumulative impacts on bats as a result of habitat disturbance. The Awel y Môr Offshore Wind Farm Project Environmental Statement does not identify any habitat disturbance impacts of bats during the construction, operation/maintenance, or decommissioning phases, but refers to an outline LEMP and outline CoCP which will include measures to ensure no adverse disturbance of habitats used by bats.

3.12.3.4 The Mona Offshore Wind Project includes embedded mitigation to avoid disturbance of bats as described in the Outline CoCP (document reference: J26), including the absence of night-time working during periods where Hazel Dormice are active.

3.12.3.5 Taking a precautionary approach, any additional disturbance of bat habitat as a result of the Awel y Môr Offshore Wind Farm Wind Project would affect only a small proportion of the bat habitat across the Mona Onshore Development. In this context the cumulative impact would be low.

Badgers

3.12.3.6 Only one Tier 1 Project, the Awel y Môr Offshore Wind Farm Project, has a temporal and physical overlap with the Mona Offshore Wind Project, which could result in cumulative impacts on bats as a result of habitat disturbance. The Awel y Môr Offshore Wind Farm Project Environmental Statement does not identify disturbance impacts on badger and concluded no significant effect. Taking a precautionary approach, the cumulative impacts on badger from habitat disturbance will be negligible.

All other species

3.12.3.7 No impacts were identified on any other species as a result of habitat disturbance of any of the Tier 1 Projects.

Sensitivity of the receptor

Bats

3.12.3.8 The presence of 10 species of bat is not high given the extent of the survey area, and most of the activity was of common and widespread species. However, the significance of the Mona Onshore Development Area for lesser horseshoe bat (national value) and Leisler's bat (district value) along with the overall assemblage of bats across the extent of the Mona Onshore Development Area, means that the Mona Onshore Development Area is considered to be of national value for bats and, as such, is considered to be **high sensitivity**.

Badger

3.12.3.9 While they are widespread within the Mona Onshore Development Area, badgers are quite susceptible to development impacts. Therefore, the sensitivity of the receptor is considered to be **medium**.

Significance of effect

Bats

3.12.3.10 Overall, the magnitude of impact is deemed to be low, and the sensitivity of receptor is considered to be high. The effect will, therefore, be of **minor adverse** significance which is not significant in EIA terms.

Badger

3.12.3.11 Overall, the magnitude of cumulative impact is deemed to be negligible, and the sensitivity of receptor is considered to be medium. The effect will, therefore, be of **minor adverse** significance which is not significant in EIA terms.

Tier 3

Construction, operation, maintenance, and decommissioning

Magnitude of impact

GCN, reptiles and bats

3.12.3.12 There is the potential for the NGET development to have habitat disturbance impacts on GCN, bats and reptiles. However, given the small scale of the NGET developments in relation to the Mona Onshore Development Area, cumulative impacts on all these receptors as a result of habitat disturbance would be negligible. For each of these three receptors the NGET development would only affect at time proportions of the suitable habitat within the Mona Onshore Development Area. The development is located away from known bat roosts and GCN breeding ponds and therefore would not affect core habitat for these species.

All other terrestrial receptors

3.12.3.13 No other impacts were identified on any other onshore ecology receptors as a result of habitat disturbance.

Sensitivity of the receptor

GCN

3.12.3.14 It is considered that the sensitivity of the receptor is **medium** as GCN is medium conservation importance and has medium ability to recover.

Bats

3.12.3.15 As described in the previous sections the sensitivity of bats is considered to be **high**.

Reptiles

3.12.3.16 As previously described in the previous sections the sensitivity of reptiles is considered to be **medium**.

Significance of effect

GCN

3.12.3.17 The sensitivity of the receptor is medium, and the magnitude of the impact is negligible. Therefore, the overall cumulative impact is of **negligible significance**, which is not significant in EIA terms.

Bats

3.12.3.18 The sensitivity of the receptor is high, and the magnitude of the impact is negligible. Therefore, the overall cumulative impact is of **negligible significance**, which is not significant in EIA terms.

Reptiles

3.12.3.19 The sensitivity of the receptor is medium, and the magnitude of the impact is negligible. Therefore, the overall cumulative impact is of **negligible significance**, which is not significant in EIA terms.

3.12.4 Habitat fragmentation

Construction, operation, maintenance, and decommissioning

Magnitude of impact

GCN, reptiles and bats

3.12.4.1 There is the potential for the NGET development to have habitat fragmentation impacts on GCN, bats and reptiles. However, given the small scale of the NGET developments in relation to the Mona Onshore Development Area, cumulative impacts on all these receptors as a result of habitat fragmentation would be negligible. For each of these three receptors the NGET development would only affect at time proportions of the suitable habitat within the Mona Onshore Development Area. The development is too small to be a significant barrier to GCN movement within the surrounding terrestrial habitat and would not obstruct access to ponds. Similarly, the development is too small to cause fragmentation of reptile habitat. In relation to bats, the development would

affect a negligible extent of the hedgerow network along which bats forage and commute.

All other terrestrial receptors

3.12.4.2 No other impacts were identified on any other onshore ecology receptors as a result of habitat fragmentation.

Sensitivity of the receptor

GCN

3.12.4.3 It is considered that the sensitivity of the receptor is medium as GCN is medium conversation importance and has medium ability to recover.

Bats

3.12.4.4 As described in the previous sections the sensitivity of bats is considered to be high.

Reptiles

3.12.4.5 As described in the previous sections the sensitivity of reptiles is considered to be medium.

Significance of effect

GCN

3.12.4.6 The sensitivity of the receptor is medium, and the magnitude of the impact is negligible. Therefore, the overall cumulative impact is of **negligible significance**, which is not significant in EIA terms.

Bats

3.12.4.7 The sensitivity of the receptor is high, and the magnitude of the impact is negligible. Therefore, the overall cumulative impact is of **negligible significance**, which is not significant in EIA terms.

Reptiles

3.12.4.8 The sensitivity of the receptor is medium, and the magnitude of the impact is negligible. Therefore, the overall cumulative impact is of **negligible significance**, which is not significant in EIA terms.

3.12.5 Future monitoring

3.12.5.1 No monitoring to test the predictions made within the cumulative impact assessment is considered necessary.

3.13 Transboundary effects

3.13.1.1 A screening of transboundary impacts has been undertaken and has identified that there was no potential for significant transboundary effects with regard to onshore ecology from the Mona Offshore Wind Project upon the interests of other states.

3.14 Inter-related effects

3.14.1.1 Inter-relationships are the impacts and associated effects of various aspects of the proposal on the same receptor. These are considered to be:

- Project lifetime effects: Assessment of the scope for effects that occur throughout more than one phase of the Mona Offshore Wind Project (construction, Operations and maintenance, and decommissioning), to interact to potentially create a more significant effect on a receptor than if just assessed in isolation in these three phases
- Receptor led effects: Assessment of the scope for all effects to interact, spatially and temporally, to create inter-related effects on a receptor. As an example, all effects on onshore and intertidal ornithology, such as habitat loss and disturbance may interact to produce a different, or greater effect on this receptor than when the effects are considered in isolation. Receptor-led effects may be short term, temporary or transient effects, or incorporate longer term effects.

3.14.1.2 A description of the likely interactive effects arising from the Mona Offshore Wind Project on onshore ecology is provided in Volume 3, Chapter 11: Inter-related effects – onshore of the Environmental Statement.

3.15 Summary of impacts, mitigation measures and monitoring

3.15.1.1 Information on onshore ecology within the onshore ecology study area was collected through review of available literature, other assessments, UK statutory guidance, detailed analysis of the data collected during site-specific surveys, and consultation with relevant stakeholders.

- Table 3.34 presents a summary of the potential impacts, measures adopted as part of the project and residual effects in respect onshore ecology. The impacts assessed include temporary and permanent habitat loss, habitat disturbance, habitat fragmentation and species isolation, pollution caused by accidental spills/contaminant and the spread of INNS. Overall, it is concluded that there will be no significant effects arising from the Mona Offshore Wind Project during the construction, operations and maintenance or decommissioning phases
- Table 3.35 presents a summary of the potential cumulative impacts, mitigation measures and residual effects. The cumulative impacts assessed include temporary and permanent habitat loss, habitat disturbance, habitat fragmentation and species isolation, pollution caused by accidental spills/contaminant and the spread of INNS. Overall, it is concluded that there are no significant cumulative effects to any species from the Mona Offshore Wind Project alongside other projects/plans.

Table 3.34. Summary of potential environmental effects, mitigation, and monitoring.

[a] C=construction, O=operational and maintenance, D=decommissioning

Description of impact	Phase[a]			Measures adopted as part of the Mona Offshore Wind Project	Magnitude of impact	Sensitivity of the receptor	Significance of effect	Further mitigation	Residual effect	Proposed monitoring
	C	O	D							
Temporary and permanent habitat loss on Llandulas Limestone and Gwrych Castle Wood SSSI.	✓	×	✓	Commitment to using trenchless techniques beneath the SSSI. CoCP and LEMP secured under the requirement of the DCO.	No change	High	**No change**, which is not significant in EIA terms	N/A	No Change	None proposed
Temporary and permanent habitat loss on Traeth Pensarn SSSI.	✓	×	✓	Avoidance of coastal shingle (the feature of interest of the SSSI) within the site design. CoCP and LEMP secured under the requirement of the DCO.	No change	High	**No change**, which is not significant in EIA terms.	None proposed	No change	None proposed
Coed y Gopa SSSI	✓	×	✓	Site layout design to avoid direct loss.	No change	High	**No change** which is not significant in EIA terms.	N/A	No change	None proposed
Coedydd ac Ogofau Elwy a Meichion SSSI	✓	×	✓	Site layout design to avoid direct loss.	No change	High	**No change**, which is not significant in EIA terms.	N/A	No change	None proposed
Temporary and permanent habitat loss of ancient woodland.	✓	×	✓	Site layout design to avoid direct loss. CoCP and LEMP secured under the requirement of the DCO.	No change	High	**No change**, which is not significant in EIA terms	N/A	No Change	None proposed
Temporary and permanent habitat loss of Coed Cord and Coed y Season LWSs.	✓	×	✓	Site layout design to avoid direct loss. CoCP and LEMP secured under the requirement of the DCO.	No change	High	**No change**, which is not significant in EIA terms.	None proposed	No change	None proposed
Temporary and permanent habitat loss of broadleaved trees (parkland) and scattered trees.	✓	×	✓	Site layout design to minimise loss. CoCP and LEMP secured under the requirement of the DCO. Replacement tree and woodland planting and new standard tree planting within new hedgerows as detailed in Outline LEMP Document Reference J22).	Low	High	**Minor adverse**, which is not significant in EIA terms.	None proposed	Minor adverse	Monitoring of new woodland and hedgerow planting to ensure establishment to specification as specified in the LEMP.
Semi-natural and plantation woodland	✓	×	✓	CoCP and LEMP secured under the requirement of the DCO.	Low	Medium	**Minor adverse**, which is not significant in EIA terms	None proposed	Minor adverse	Monitoring of new woodland and hedgerow planting to ensure establishment to specification as specified in the LEMP.
Temporary and permanent habitat loss of calcareous Grassland	✓	×	✓	Site layout design to avoid the calcareous grassland for access, and the commitment to use trenchless techniques for cable installation beneath the grassland. CoCP and LEMP secured under the requirement of the DCO.	No change	Medium	No change	N/A	No change	None proposed
Temporary and permanent habitat loss of hedgerows.	✓	×	✓	Site layout design to minimise loss with the majority of hedgerows being retained. Minimising extent of loss where it is unavoidable. Replacement and new species rich hedgerow planting with trees.	Low	Medium	Minor beneficial	None proposed	Minor beneficial	Pre-construction survey of all hedgerows with the aim to provide advice on the less valuable sections

Description of impact	Phase[a] C	O	D	Measures adopted as part of the Mona Offshore Wind Project	Magnitude of impact	Sensitivity of the receptor	Significance of effect	Further mitigation	Residual effect	Proposed monitoring
				CoCP and LEMP secured under the requirement of the DCO.						of hedgerow to be removed, if required. Monitoring of new hedgerow planting to ensure establishment to specification as specified in the LEMP.
Temporary and permanent habitat loss of rivers and ordinary watercourses.	✓	×	✓	Commitment to use trenchless techniques to cross seven of the nine watercourses along the Mona Onshore Cable Connection Route. Crossing design to minimise the length of watercourse affected by each crossing. The use of pipe flumes to maintain water flow at crossings. Re-instatement of bankside habitats once crossings have been removed. CoCP and LEMP secured under the requirement of the DCO.	Low	Medium	Minor adverse	None proposed	Minor adverse	None proposed
Temporary and permanent habitat loss on bats.	✓	×	✓	EPS mitigation licence to cover all licensable impacts on bats. Preconstruction surveys to ensure the EPS mitigation licence is informed by current survey information. Provision of replacement roosts to mitigate roost loss, to be specified in the EPS mitigation licence. Use of temporary hedgerows to maintain flight lines during construction. Use of sensitive lighting to avoid light spill on roosts and fight lines where artificial lighting is required. Reinstatement of hedgerows and new hedgerow and woodland planting. CoCP and LEMP secured under the requirement of the DCO.	Low to medium	High	Minor adverse	None proposed	Minor adverse	Hibernation surveys of the trees that will be lost to the development (in line with the new bat mitigation guidelines (Collins 2023) and monitoring of areas prior to hedgerow creation and enhancement to be able to assess if the mitigation measures are successful.
Temporary and permanent habitat loss on badgers.	✓	×	✓	Site layout and design to minimise the number of setts affected. Closure of badger setts under an NRW licence. Preconstruction surveys to ensure the EPS mitigation licence(s) are informed by current survey information. CoCP and LEMP secured under the requirement of the DCO.	Low	Medium	Minor adverse	None proposed	Minor adverse	Ongoing monitoring of sets in 2024 and pre-construction surveys.
Temporary and permanent habitat loss on European eel.	✓	×	✓	Pre-construction surveys. Commitment to use trenchless techniques to cross seven of the nine watercourses along the Mona Onshore Cable Connection Route. Crossing design to minimise the length of watercourse affected by each crossing. The use of pipe flumes to maintain water flow at crossings. CoCP and LEMP secured under the requirement of the DCO.1	Low	High	Minor adverse	None proposed	Minor adverse	None proposed
Temporary and permanent habitat loss on GCN.	✓	×	✓	EPS mitigation licence to cover all licensable impacts on GCN. Preconstruction surveys to ensure the EPS mitigation licence is informed by current survey information. GCN trapping and relocation, and provision new terrestrial and aquatic GCN habitat as specified in the EPS mitigation licence, in general accordance with the Outline LEMP (Document Reference J22 Appendix D). CoCP and LEMP secured under the requirement of the DCO.	Low	Medium	Minor beneficial	None proposed	Minor beneficial	Ongoing monitoring of ponds in 2024 in consultation with NRW, ARC and the St Asaph GCN steering group to minimise disruption and co-ordinate surveys. Monitoring of new woodland and hedgerow planting, new grassland creation and pond creation to ensure establishment to specification as specified in the LEMP.
Temporary and permanent	✓	×	✓	EPS mitigation licence to cover all licensable impacts on hazel dormouse.	Low	Medium	Minor beneficial	None proposed	Minor beneficial	Ongoing monitoring of habitats within and adjacent to the Mona

Description of impact	Phase[a] C	O	D	Measures adopted as part of the Mona Offshore Wind Project	Magnitude of impact	Sensitivity of the receptor	Significance of effect	Further mitigation	Residual effect	Proposed monitoring
habitat loss on hazel dormouse.				Preconstruction surveys to ensure the EPS mitigation licence is informed by current survey information. New hedgerow planting and hedgerow reinstatement to provide a net gain in Hazel dormouse habitat and improve connectivity, to be delivered in accordance with the EPS mitigation licence. CoCP and LEMP secured under the requirement of the DCO.						Onshore Development Area in 2024. monitoring of areas prior to hedgerow creation and enhancement to be able to assess if the mitigation measures are successful. Monitoring of new hedgerow planting, to ensure establishment to specification as specified in the LEMP.
Temporary and permanent habitat loss on otter.	✓	×	✓	Pre-construction surveys. Commitment to use trenchless techniques for cable installation beneath three watercourses. Crossing design to minimise the length of watercourse affected by each crossing. The use of pipe flumes to maintain water flow at crossings. CoCP and LEMP secured under the requirement of the DCO.	Low	Medium	Minor adverse	None proposed	Minor adverse	None proposed
Temporary and permanent habitat loss on Water vole.	✓	×	✓	Pre-construction surveys. Commitment to use trenchless techniques for cable installation beneath three watercourses. Crossing design to minimise the length of watercourse affected by each crossing. The use of pipe flumes to maintain water flow at crossings. CoCP and LEMP secured under the requirement of the DCO.	Low	Medium	Minor adverse	None proposed	Minor adverse	None proposed
Temporary and permanent habitat loss on reptiles.	✓	×	✓	Trapping and relocation of reptiles as part of GCN trapping and relocation. Incorporating replacement habitat for reptiles as part of the GCN mitigation strategy. CoCP and LEMP secured under the DCO	Low	Medium	Minor beneficial	None proposed	Minor beneficial	Monitoring of sites where access was not possible in 2023 or a full suite of surveys was not completed due to seasonal constraints. Monitoring of new grassland creation (reptile habitat) to ensure establishment to specification as specified in the LEMP.
Temporary and permanent habitat loss on terrestrial invertebrates.	✓	×	✓	New woodland and species rich hedgerow planting and new wildflower grassland creation. CoCP and LEMP secured under the requirement of the DCO.	Low	Medium	Minor adverse	None proposed	Minor adverse	Monitoring of new woodland and hedgerow planting new grassland creation and pond creation to ensure establishment to specification as specified in the LEMP.
Temporary and permanent habitat loss on aquatic invertebrates.	✓	×	✓	New pond creation as part of GCN mitigation to provide new habitat for aquatic invertebrates. CoCP and LEMP secured under the requirement of the DCO.	Low	Low	Negligible	None proposed	Negligible	Monitoring of new pond creation to ensure establishment to specification as specified in the LEMP.
Temporary and permanent habitat loss all IEFs	✓	×	✓	See relevant species/habitat under temporary and permanent habitat loss.	Negligible	Low to high	Negligible to minor adverse	None proposed	Negligible to minor adverse	Outline LEMP (Document reference J26).
Habitat disturbance within the Llanddulas Limestone and	✓	✓	✓	Commitment to using trenchless techniques beneath the SSSI. CoCP and LEMP secured under the requirement of the DCO.	Negligible	High	Minor adverse	None proposed	Minor adverse	None proposed

Description of impact	Phase[a] C	O	D	Measures adopted as part of the Mona Offshore Wind Project	Magnitude of impact	Sensitivity of the receptor	Significance of effect	Further mitigation	Residual effect	Proposed monitoring
Gwrych Castle Wood SSSI.										
Habitat disturbance within the Traeth Pensarn SSSI.	✓	✓	✓	Avoidance of coastal shingle (the feature of interest of the SSSI within the site design. CoCP and LEMP secured under the requirement of the DCO.	Low	High	Minor adverse	None proposed	Minor adverse	None proposed
Habitat disturbance of Coed y Gopa SSSI	✓	✓	✓	Site layout design to avoid direct loss.	Low	High	Minor adverse,	None proposed	Minor adverse	None proposed
Habitat disturbance of Coedydd ac Ogofau Elwy a Meichion SSSI	✓	✓	✓	Site layout design to avoid direct loss.	Low	High	Minor adverse,	None proposed	Minor adverse	None proposed
Habitat disturbance of ancient woodland,	✓	✓	✓	Site layout design to avoid direct loss. CoCP and LEMP secured under the requirement of the DCO.	Negligible	High	Minor adverse	None proposed	Minor adverse	None proposed
Habitat disturbance of Coed Cord and Coed y Season LWSs.	✓	✓	✓	Site layout design to avoid direct loss. CoCP and LEMP secured under the requirement of the DCO.	Low	High	Minor adverse	None proposed	Minor adverse	None proposed
Habitat disturbance of broadleaved trees (parkland) and Scattered trees.	✓	✓	✓	Site layout design to minimise loss. CoCP and LEMP secured under the requirement of the DCO. Replacement tree and woodland planting and new standard tree planting with new hedgerows as detailed in the Outline LEMP (Document Reference J22).	Low	High	Minor adverse	None proposed	Minor adverse	Monitoring of new woodland and hedgerow planting to ensure establishment to specification as specified in the LEMP.
Habitat disturbance of Semi-natural woodland and plantation	✓	✓	✓	Regeneration of woodland CoCP and LEMP secured under the requirement of the DCO.	Low	Medium	Minor adverse	None proposed	Minor adverse	Monitoring of new woodland and hedgerow planting to ensure establishment to specification as specified in the LEMP.
Habitat disturbance of calcareous grassland.	✓	✓	✓	Site layout design to avoid the calcareous grassland for access, and the commitment to use trenchless techniques for cable installation beneath the grassland. CoCP and LEMP secured under the requirement of the DCO.	Low	Medium	Minor adverse	None proposed	Minor adverse	None proposed
Habitat disturbance of hedgerows.	✓	✓	✓	Site layout design to minimise loss with the majority of hedgerows being retained. Minimising extent of loss where it is unavoidable. Replacement and new species rich hedgerow planting with trees. CoCP and LEMP secured under the requirement of the DCO.	Low	Medium	Minor adverse	None proposed	Minor adverse	Pre-construction survey of all hedgerows with the aim to provide advice on the less valuable sections of hedgerow to be removed, if required. Outline LEMP (Document Reference J22).
Habitat disturbance of rivers and watercourses	✓	✓	✓	Commitment to use trenchless techniques to cross seven of the nine watercourses along the Mona Onshore Cable Connection Route. Crossing design to minimise the length of watercourse affected by each crossing. The use of pipe flumes to maintain water flow at crossings.	Low	Medium	Minor adverse	None proposed	Minor adverse	None proposed

Description of impact	Phase[a] C	O	D	Measures adopted as part of the Mona Offshore Wind Project	Magnitude of impact	Sensitivity of the receptor	Significance of effect	Further mitigation	Residual effect	Proposed monitoring
				Re-instatement of bankside habitats once crossings have been removed. CoCP and LEMP secured under the requirement of the DCO.						
Habitat disturbance impacts on bats	✓	✓	✓	EPS mitigation licence to cover all licensable impacts on bats. Preconstruction surveys to ensure the EPS mitigation licence is informed by current survey information. Provision of replacement roosts to mitigate roost loss, to be specified in the EPS mitigation licence. Use of temporary hedgerows to maintain flight lines during construction. Use of sensitive lighting to avoid light spill on roosts and fight lines where artificial lighting is required. Reinstatement of hedgerows and new hedgerow and woodland planting. CoCP and LEMP secured under the requirement of the DCO.	Negligible to Low	High	Minor adverse	None proposed	Minor adverse	Hibernation surveys of the trees that will be lost to the development (in line with the new bat mitigation guidelines (Collins 2023) and monitoring of areas prior to hedgerow creation and enhancement to be able to assess if the mitigation measures are successful. Outline LEMP (Document Reference J22).
Habitat disturbance impacts on badgers	✓	✓	✓	Site layout and design to minimise the number of setts affected. Closure of badger setts under an NRW licence. Preconstruction surveys to ensure the EPS mitigation licence is informed by current survey information. CoCP and LEMP secured under the requirement of the DCO.	Low	Medium	Minor adverse	None proposed	Minor adverse	Ongoing monitoring of sets in 2024 and pre-construction surveys.
Habitat disturbance impacts on European eel	✓	✓	✓	Commitment to use trenchless techniques to cross seven of the nine watercourses along the Mona Onshore Cable Connection Route. Crossing design to minimise the length of watercourse affected by each crossing. The use of pipe flumes to maintain water flow at crossings. CoCP and LEMP secured under the requirement of the DCO.	Low	High	Minor adverse	None proposed	Minor adverse	None proposed
Habitat disturbance impacts on GCN	✓	✓	✓	EPS mitigation licence to cover all licensable impacts on GCN. Preconstruction surveys to ensure the EPS mitigation licence is informed by current survey information. GCN trapping and relocation, and provision new terrestrial and aquatic GCN habitat as specified in the EPS mitigation licence, in general accordance with the Outline LEMP (Document Reference J22 Appendix D). CoCP and LEMP secured under the requirement of the DCO.	Low	Medium	Minor adverse	None proposed	Minor adverse	Ongoing monitoring of ponds in 2024 in consultation with NRW, ARC and the St Asaph GCN steering group to minimise disruption and co-ordinate surveys. Monitoring of new woodland and hedgerow planting new grassland creation and pond creation to ensure establishment to specification as specified in the LEMP.
Habitat disturbance impacts on hazel dormouse	✓	✓	✓	EPS mitigation licence to cover all licensable impacts on hazel dormouse. Preconstruction surveys to ensure the EPS mitigation licence is informed by current survey information. New hedgerow planting and hedgerow reinstatement to provide a net gain in Hazel dormouse habitat and improve connectivity, to be delivered in accordance with the EPS mitigation licence. CoCP and LEMP secured under the requirement of the DCO.	Low	Medium	Minor adverse	None proposed	Minor adverse	Ongoing monitoring of habitats within and adjacent to the Mona Onshore Development Area in 2024. monitoring of areas prior to hedgerow creation and enhancement to be able to assess if the mitigation measures are successful. Monitoring of new hedgerow planting, to ensure establishment to specification as specified in the LEMP.
Habitat disturbance impacts on otter	✓	✓	✓	Pre-construction surveys. Commitment to use trenchless techniques for cable installation beneath three watercourses.	Low	Medium	Minor adverse	None proposed	Minor adverse	None proposed

Description of impact	Phase[a] C	O	D	Measures adopted as part of the Mona Offshore Wind Project	Magnitude of impact	Sensitivity of the receptor	Significance of effect	Further mitigation	Residual effect	Proposed monitoring
				Crossing design to minimise the length of watercourse affected by each crossing. The use of pipe flumes to maintain water flow at crossings. CoCP and LEMP secured under the requirement of the DCO.						
Habitat disturbance impacts on Water vole	✓	✓	✓	Pre-construction surveys. Commitment to use trenchless techniques for cable installation beneath three watercourses. Crossing design to minimise the length of watercourse affected by each crossing. The use of pipe flumes to maintain water flow at crossings. CoCP and LEMP secured under the requirement of the DCO.	Low	Medium	Minor adverse	None proposed	Minor adverse	None proposed
Habitat disturbance impacts on reptiles	✓	✓	✓	Trapping and relocation of reptiles as part of GCN trapping and relocation. Incorporating replacement habitat for reptiles as part of the GCN mitigation strategy. CoCP and LEMP secured under the requirement of the DCO.	Negligible	Medium	Negligible	None proposed	Negligible	Monitoring of sites where access was not possible in 2023 or a full suite of surveys was not completed due to seasonal constraints. Monitoring of new grassland creation (reptile habitat) to ensure establishment to specification as specified in the LEMP.
Habitat disturbance impacts on terrestrial invertebrates	✓	✓	✓	New woodland and species rich hedgerow planting and new wildflower grassland creation. CoCP and LEMP secured under the requirement of the DCO.	Low	Medium	Minor adverse	None proposed	Minor adverse	Monitoring of new woodland and hedgerow planting new grassland creation and pond creation to ensure establishment to specification as specified in the LEMP.
Habitat disturbance impacts on aquatic invertebrates	✓	✓	✓	New pond creation as part of GCN mitigation to provide new habitat for aquatic invertebrates. CoCP and LEMP secured under the requirement of the DCO.	Negligible	Low	Negligible	None proposed	Negligible	Monitoring of new pond creation to ensure establishment to specification as specified in the LEMP.
Habitat disturbance on all IEFs within the Mona Onshore Cable Corridor and 400Kv Cable Corridor	✓	✓	✓	See relevant species/habitat under habitat disturbance impacts.	Negligible	High	Minor adverse	None proposed	Minor adverse	See relevant species/habitat under habitat disturbance impacts.
Habitat disturbance on all IEFs within the Onshore Substation	✓	✓	✓	See relevant species/habitat under habitat disturbance impacts.	Low	High	Minor adverse	None proposed	Minor adverse	See relevant species/habitat under habitat disturbance impacts.
Habitat disturbance on all IEFs	✓	✓	✓	See relevant species/habitat under habitat disturbance impacts.	Negligible to Low	Low to High	Minor adverse	None proposed	Minor adverse	See relevant species/habitat under habitat disturbance impacts.
Habitat fragmentation within the Llanddulas Limestone and	✓	×	✓	Commitment to using trenchless techniques beneath the SSSI. CoCP and LEMP secured under the requirement of the DCO.	No change	High	No change	N/A	No change	None proposed

Description of impact	Phase[a] C	O	D	Measures adopted as part of the Mona Offshore Wind Project	Magnitude of impact	Sensitivity of the receptor	Significance of effect	Further mitigation	Residual effect	Proposed monitoring
Gwrych Castle Wood SSSI.										
Habitat fragmentation within the Traeth Pensarn SSSI.	✓	×	✓	Avoidance of coastal shingle (the feature of interest of the SSSI within the site design. CoCP and LEMP secured under the requirement of the DCO.	No change	High	No change	N/A	No change	None proposed
Habitat fragmentation within Coed y Gopa SSSI	✓	×	✓	Site layout design to avoid direct loss.	Low	High	Minor adverse	None proposed	Minor adverse	See relevant species/habitat under habitat fragmentation impacts
Habitat fragmentation within Coedydd ac Ogofau Elwy a Meichion SSSI	✓	×	✓	CoCP and LEMP secured under the requirement of the DCO.	Low	High	Minor adverse	None proposed	Minor adverse	See relevant species/habitat under habitat fragmentation impacts
Habitat fragmentation of ancient woodland,	✓	×	✓	Site layout design to avoid direct loss. CoCP and LEMP secured under the requirement of the DCO.	No change	High	No change	N/A	No change	None proposed
Habitat fragmentation of Coed Cord and Coed y Season LWSs.	✓	×	✓	Site layout design to avoid direct loss. CoCP and LEMP secured under the requirement of the DCO.	Low	High	Minor adverse	None proposed	Minor adverse	None proposed
Habitat fragmentation of broadleaved trees (parkland) and Scattered trees.	✓	×	✓	Site layout design to minimise loss. Replacement tree and woodland planting and new standard tree planting with new hedgerows (see Outline LEMP document reference J26). CoCP and LEMP secured under the requirement of the DCO.	Low	High	Minor adverse	None proposed	Minor adverse	Monitoring of new woodland and hedgerow planting to ensure establishment to specification as specified in the LEMP.
Habitat fragmentation of Semi-natural and woodland plantation	✓	×	✓	Regeneration of woodland CoCP and LEMP secured under the requirement of the DCO.	Low	Medium	Minor adverse	None proposed	Minor adverse	Monitoring of new area of natural woodland regeneration
Habitat fragmentation of calcareous grassland.	✓	×	✓	Site layout design to avoid the calcareous grassland for access, and the commitment to use trenchless techniques for cable installation beneath the grassland. CoCP and LEMP secured under the requirement of the DCO.	No change	Medium	No change	N/A	No change	None proposed
Habitat fragmentation of hedgerows.	✓	×	✓	Site layout design to minimise loss with the majority of hedgerows being retained. Minimising extent of loss where it is unavoidable. Replacement and new species rich hedgerow planting with trees. CoCP and LEMP secured under the requirement of the DCO.	Low	Medium	Minor adverse	None proposed	Minor adverse	Pre-construction survey of all hedgerows with the aim to provide advice on the less valuable sections of hedgerow to be removed, if required. Monitoring of new hedgerow planting to ensure establishment to specification as specified in the LEMP.
Habitat fragmentation of	✓	×	✓	Commitment to use trenchless techniques to cross seven of the nine watercourses along the Mona Onshore Cable Connection Route.	Low	Medium	Minor adverse	None proposed	Minor adverse	None proposed

Description of impact	Phase[a] C	O	D	Measures adopted as part of the Mona Offshore Wind Project	Magnitude of impact	Sensitivity of the receptor	Significance of effect	Further mitigation	Residual effect	Proposed monitoring
rivers and watercourses				Crossing design to minimise the length of watercourse affected by each crossing. The use of pipe flumes to maintain water flow at crossings. Re-instatement of bankside habitats once crossings have been removed. CoCP and LEMP secured under the requirement of the DCO.						
Habitat fragmentation impacts on bats	✓	×	✓	EPS mitigation licence to cover all licensable impacts on bats. Preconstruction surveys to ensure the EPS mitigation licence is informed by current survey information. Provision of replacement roosts to mitigate roost loss, to be specified in the EPS mitigation licence. Use of temporary hedgerows to maintain flight lines during construction. Use of sensitive lighting to avoid light spill on roosts and fight lines where artificial lighting is required. Reinstatement of hedgerows and new hedgerow and woodland planting. CoCP and LEMP secured under the requirement of the DCO.	Low	High	Minor adverse	None proposed	Minor adverse	Hibernation surveys of the trees that will be lost to the development (in line with the new bat mitigation guidelines (Collins 2023) and monitoring of areas prior to hedgerow creation and enhancement to be able to assess if the mitigation measures are successful.
Habitat fragmentation impacts on badgers	✓	×	✓	Site layout and design to minimise the number of setts affected. Closure of badger setts under an NRW licence. Preconstruction surveys to ensure the EPS mitigation licence is informed by current survey information. CoCP and LEMP secured under the requirement of the DCO.	Low	Medium	Minor adverse	None proposed	Minor adverse	Ongoing monitoring of sets in 2024 and pre-construction surveys.
Habitat fragmentation impacts on European eel	✓	×	✓	Pre-construction surveys. Commitment to use trenchless techniques to cross seven of the nine watercourses along the Mona Onshore Cable Connection Route. Crossing design to minimise the length of watercourse affected by each crossing. The use of pipe flumes to maintain water flow at crossings. CoCP and LEMP secured under the requirement of the DCO.	Low	High	Minor adverse	None proposed	Minor adverse	None proposed
Habitat fragmentation impacts on GCN	✓	×	✓	EPS mitigation licence to cover all licensable impacts on GCN. Preconstruction surveys to ensure the EPS mitigation licence is informed by current survey information. GCN trapping and relocation, and provision new terrestrial and aquatic GCN habitat as specified in the EPS mitigation licence, in general accordance with the Outline LEMP (Document Reference J22). CoCP and LEMP secured under the requirement of the DCO.	Negligible	Medium	Minor adverse	None proposed	Minor adverse	Ongoing monitoring of ponds in 2024 in consultation with NRW, ARC and the St Asaph GCN steering group to minimise disruption and co-ordinate surveys. Monitoring of new woodland and hedgerow planting new grassland creation and pond creation to ensure establishment to specification as specified in the LEMP.
Habitat fragmentation impacts on hazel dormouse	✓	×	✓	EPS mitigation licence to cover all licensable impacts on hazel dormouse. Preconstruction surveys to ensure the EPS mitigation licence is informed by current survey information. New hedgerow planting and hedgerow reinstatement to provide a net gain in Hazel dormouse habitat and improve connectivity, to be delivered in accordance with the EPS mitigation licence. CoCP and LEMP secured under the requirement of the DCO.	Low	Medium	Minor adverse	None proposed	Minor adverse	Ongoing monitoring of habitats within and adjacent to the Mona Onshore Development Area in 2024. monitoring of areas prior to hedgerow creation and enhancement to be able to assess if the mitigation measures are successful. Monitoring of new hedgerow planting to ensure establishment to specification as specified in the LEMP.

Description of impact	Phase[a] C	O	D	Measures adopted as part of the Mona Offshore Wind Project	Magnitude of impact	Sensitivity of the receptor	Significance of effect	Further mitigation	Residual effect	Proposed monitoring
Habitat fragmentation impacts on otter	✓	×	✓	Pre-construction surveys. Commitment to use trenchless techniques for cable installation beneath three watercourses. Crossing design to minimise the length of watercourse affected by each crossing. The use of pipe flumes to maintain water flow at crossings. CoCP and LEMP secured under the requirement of the DCO.	Low	Medium	Minor adverse	None proposed	Minor adverse	None proposed
Habitat fragmentation impacts on Water vole	✓	×	✓	Pre-construction surveys. Commitment to use trenchless techniques for cable installation beneath three watercourses. Crossing design to minimise the length of watercourse affected by each crossing. The use of pipe flumes to maintain water flow at crossings. CoCP and LEMP secured under the requirement of the DCO.	Low	Medium	Minor adverse	None proposed	Minor adverse	None proposed
Habitat fragmentation impacts on reptiles	✓	×	✓	Trapping and relocation of reptiles as part of GCN trapping and relocation. Incorporating replacement habitat for reptiles as part of the GCN mitigation strategy. CoCP and LEMP secured under the requirement of the DCO.	Negligible	Medium	Minor adverse	None proposed	Minor adverse	Monitoring of sites where access was not possible in 2023 or a full suite of surveys was not completed due to seasonal constraints. Monitoring of new grassland creation and (reptile habitat) to ensure establishment to specification as specified in the LEMP as set out in accordance wityh the Outline LEMP (document J:26)
Habitat fragmentation impacts on terrestrial invertebrates	✓	×	✓	New woodland and species rich hedgerow planting and new wildflower grassland creation. CoCP and LEMP secured under the requirement of the DCO.	Negligible	Medium	Negligible	None proposed	Negligible	Monitoring of new woodland and hedgerow planting new grassland creation and pond creation to ensure establishment to specification as specified in the LEMP Outline LEMP (document J:26)
Habitat fragmentation impacts on aquatic invertebrates	✓	×	✓	New pond creation as part of GCN mitigation to provide new habitat for aquatic invertebrates. CoCP and LEMP secured under the requirement of the DCO.	Negligible	Low	Negligible	None proposed	Negligible	Monitoring of new pond creation to ensure establishment to specification as specified in the LEMP Outline LEMP (document J:26).
Habitat fragmentation on all IEFs	✓	×	✓	See relevant species/habitat under habitat disturbance impacts.	No change to Low	Medium to High	No change to Minor adverse	None proposed	No change to Minor adverse	See relevant species/habitat under habitat fragmentation impacts.
Pollution caused by accidental spills/contaminant release.	✓	✓	×	CoCP secured under the DCO.	Negligible	High	Minor adverse	None proposed	Minor adverse	CoCP secured under the DCO.
Pollution caused by accidental spills/contaminant release.	×	×	✓	CoCP secured under the DCO.	Low	High	Minor adverse	None proposed	Minor adverse	CoCP secured under the DCO.
Spreading Invasive and	✓	×	✓	CoCP secured under the DCO.	Negligible	High	Minor adverse	None proposed	Minor adverse	CoCP secured under the DCO.

Description of impact	Phase[a] C	O	D	Measures adopted as part of the Mona Offshore Wind Project	Magnitude of impact	Sensitivity of the receptor	Significance of effect	Further mitigation	Residual effect	Proposed monitoring
Non-native Species (INNS).										

Table 3.35. Summary of potential cumulative environmental effects, mitigation, and monitoring.

[a] C=construction, O=operational and maintenance, D=decommissioning

Description of effect	Phase[a] C	O	D	Measures adopted as part of the project	Magnitude of impact	Sensitivity of the receptor	Significance of effect	Further mitigation	Residual effect	Proposed monitoring
Tier 1										
Temporary and permanent habitat loss impacts on GCN	✓	×	✓	EPS mitigation licence to cover all licensable impacts on GCN. Preconstruction surveys to ensure the EPS mitigation licence is informed by current survey information. GCN trapping and relocation, and provision new terrestrial and aquatic GCN habitat as specified in the EPS mitigation licence. CoCP and LEMP (including a GCN mitigation strategy) secured under the DCO.	Low	Medium	Minor beneficial	None proposed	Minor beneficial	A detailed LEMP will be prepared in general accordance with the Outline LEMP (document reference: J22). The LEMP is secured under a requirement of the DCO. Ongoing monitoring of ponds in 2024 in consultation with NRW, ARC and the St Asaph GCN steering group to minimise disruption and co-ordinate surveys. Monitoring of new woodland and hedgerow planting new grassland creation and pond creation to ensure establishment to specification as specified in the LEMP.
Temporary and permanent habitat loss impacts on bats	✓	×	✓	EPS mitigation licence to cover all licensable impacts on bats. Preconstruction surveys to ensure the EPS mitigation licence is informed by current survey information. Provision of replacement roosts to mitigate roost loss, to be specified in the EPS mitigation licence. Use of temporary hedgerows to maintain flight lines during construction. Use of sensitive lighting to avoid light spill on roosts and fight lines where artificial lighting is required. Reinstatement of hedgerows and new hedgerows and woodland planting. CoCP and LEMP secured under the DCO.	Low to medium	High	Minor adverse	None proposed	Minor adverse	A detailed LEMP will be prepared in general accordance with the Outline LEMP (document reference: J22). The LEMP is secured under a requirement of the DCO. Hibernation surveys of the trees that will be lost to the development (in line with the new bat mitigation guidelines (Collins 2023) and monitoring of areas prior to hedgerow creation and enhancement to be able to assess if the mitigation measures are successful.
Temporary and permanent habitat loss impacts on badger	✓	×	✓	Site layout and design to minimise the number of setts affected. Closure of badger setts under an NRW licence. Preconstruction surveys to ensure the EPS mitigation licence is informed by current survey information. CoCP and LEMP secured under the DCO.	Low	Medium	Minor adverse	None proposed	Minor adverse	A detailed LEMP will be prepared in general accordance with the Outline LEMP (document reference: J22). The LEMP is secured under a requirement of the DCO. Ongoing monitoring of sets in 2024 and pre-construction surveys.
Temporary and permanent habitat loss impacts on reptiles	✓	×	✓	Trapping and relocation of reptiles as part of GCN trapping and relocation. Incorporating replacement habitat for reptiles as part of the GCN mitigation strategy. CoCP and LEMP secured under the DCO.	Low	Medium	Minor beneficial	None proposed	Minor beneficial	A detailed LEMP will be prepared in general accordance with the Outline LEMP (document reference: J22). The LEMP is secured under a requirement of the DCO. Monitoring of sites where access was not possible in 2023 or a full suite of surveys was not completed due to seasonal constraints. Monitoring of new reptile habitat creation (wildflower and tussocky grassland) to ensure establishment to specification.

Description of effect	Phase[a] C	O	D	Measures adopted as part of the project	Magnitude of impact	Sensitivity of the receptor	Significance of effect	Further mitigation	Residual effect	Proposed monitoring
Temporary and permanent habitat loss of hedgerows	✓	×	✓	Site layout design to minimise loss with the majority of hedgerows being retained. Minimising extent of loss where it is unavoidable. Replacement and new species rich hedgerow planting with trees. CoCP and LEMP secured under the DCO.	Medium	Medium	Minor beneficial	None proposed	Minor beneficial	Pre-construction survey of all hedgerows with the aim to provide advice on the less valuable sections of hedgerow to be removed, if required. Monitoring of new hedgerow planting to ensure establishment to specification as specified A detailed LEMP will be prepared in general accordance with the Outline LEMP (document reference: J22). The LEMP is secured under a requirement of the DCO.
Habitat disturbance impacts on bats	✓	✓	✓	EPS mitigation licence to cover all licensable impacts on bats. Preconstruction surveys to ensure the EPS mitigation licence is informed by current survey information. Provision of replacement roosts to mitigate roost loss, to be specified in the EPS mitigation licence. Use of temporary hedgerows to maintain flight lines during construction. Use of sensitive lighting to avoid light spill on roosts and fight lines where artificial lighting is required. Reinstatement of hedgerows and new hedgerow and woodland planting. CoCP and LEMP secured under the DCO.	Low	High	Minor adverse	None proposed	Minor adverse	A detailed LEMP will be prepared in general accordance with the Outline LEMP (document reference: J22). The LEMP is secured under a requirement of the DCO. Hibernation surveys of the trees that will be lost to the development (in line with the new bat mitigation guidelines (Collins 2023) and monitoring of areas prior to hedgerow creation and enhancement to be able to assess if the mitigation measures are successful.
Habitat disturbance impacts on badgers	✓	✓	✓	Site layout and design to minimise the number of setts affected. Closure of badger setts under an NRW licence. Preconstruction surveys to ensure the EPS mitigation licence is informed by current survey information. CoCP and LEMP secured under the DCO.	Negligible	Medium	Minor adverse	None proposed	Minor adverse	A detailed LEMP will be prepared in general accordance with the Outline LEMP (document reference: J22). The LEMP is secured under a requirement of the DCO. Ongoing monitoring of sets in 2024 and pre-construction surveys.
Tier 3										
Temporary and permanent loss of GCN habitat,	✓	×	✓	EPS mitigation licence to cover all licensable impacts on GCN. Preconstruction surveys to ensure the EPS mitigation licence is informed by current survey information. GCN trapping and relocation, and provision new terrestrial and aquatic GCN habitat as specified in the EPS mitigation licence. CoCP and LEMP (including a GCN mitigation strategy) secured under the DCO.	Negligible	High	Negligible	None proposed	Negligible	A detailed LEMP will be prepared in general accordance with the Outline LEMP (document reference: J22). The LEMP is secured under a requirement of the DCO. Ongoing monitoring of ponds in 2024 in consultation with NRW, ARC and the St Asaph GCN steering group to minimise disruption and co-ordinate surveys. Monitoring of new woodland and hedgerow planting new grassland creation and pond creation to ensure establishment to specification as specified in the LEMP.

Description of effect	Phase[a] C	O	D	Measures adopted as part of the project	Magnitude of impact	Sensitivity of the receptor	Significance of effect	Further mitigation	Residual effect	Proposed monitoring
Habitat disturbance and fragmentation impacts on bats	✓	✓	✓	EPS mitigation licence to cover all licensable impacts on bats. Preconstruction surveys to ensure the EPS mitigation licence is informed by current survey information. Provision of replacement roosts to mitigate roost loss, to be specified in the EPS mitigation licence. Use of temporary hedgerows to maintain flight lines during construction. Use of sensitive lighting to avoid light spill on roosts and fight lines where artificial lighting is required. Reinstatement of hedgerows and new hedgerow and woodland planting. CoCP and LEMP secured under the DCO.	Negligible	High	Negligible	None proposed	Negligible	A detailed LEMP will be prepared in general accordance with the Outline LEMP (document reference: J22). The LEMP is secured under a requirement ofthe DCO. Hibernation surveys of the trees that will be lost to the development (in line with the new bat mitigation guidelines (Collins 2023) and monitoring of areas prior to hedgerow creation and enhancement to be able to assess if the mitigation measures are successful.
Habitat disturbance and fragmentation impacts on reptiles	✓	✓	✓	Trapping and relocation of reptiles as part of GCN trapping and relocation. Incorporating replacement habitat for reptiles as part of the GCN mitigation strategy. CoCP and LEMP secured under the DCO.	Negligible	Medium	Negligible	None proposed	Negligible	A detailed LEMP will be prepared in general accordance with the Outline LEMP (document reference: J22). The LEMP is secured under a requirement of the DCO. Monitoring of sites where access was not possible in 2023 or a full suite of surveys was not completed due to seasonal constraints. Monitoring of new reptile habitat creation (wildflower and tussocky grassland) to ensure establishment to specification.
Habitat disturbance and fragmentation impacts on GCN	✓	✓	✓	EPS mitigation licence to cover all licensable impacts on GCN. Preconstruction surveys to ensure the EPS mitigation licence is informed by current survey information. GCN trapping and relocation, and provision new terrestrial and aquatic GCN habitat as specified in the EPS mitigation licence. CoCP and LEMP (including a GCN mitigation strategy) secured under the DCO.	Negligible	Medium	Negligible	None proposed	Negligible	A detailed LEMP will be prepared in general accordance with the Outline LEMP (document reference: J22). The LEMP is secured under a requirement of the DCO. Ongoing monitoring of ponds in 2024 in consultation with NRW, ARC and the St Asaph GCN steering group to minimise disruption and co-ordinate surveys. Monitoring of new woodland and hedgerow planting new grassland creation and pond creation to ensure establishment to specification as specified in the LEMP.

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