

MONA OFFSHORE WIND PROJECT

Appendix to Response to Hearing Action Point: Onshore Ecology summary table

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Image of an offshore wind farm

MONA OFFSHORE WIND PROJECT

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Glossary

Term	Meaning
Applicant	Mona Offshore Wind Limited.
Development Consent Order (DCO)	An order made under the Planning Act 2008 granting development consent for one or more Nationally Significant Infrastructure Project (NSIP).
Mona Offshore Wind Project	The Mona Offshore Wind Project is comprised of both the generation assets, offshore and onshore transmission assets, and associated activities.
The Planning Inspectorate	The agency responsible for operating the planning process for Nationally Significant Infrastructure Projects.

Acronyms

Acronym	Description
CoCP	Code of Construction Practice
DCO	Development Consent Order
ExA	Examining Authority
ISH	Issue Specific Hearing

1 Appendix to Response to Hearing Action Point: Onshore Ecology summary table

1.1 Introduction

1.1.1.1 This document has been prepared in response to Action Point 47 arising from the issue Specific Hearing 2 Onshore and Offshore Environmental Matters and dDCO which was held on 18 July 2024 in respect of the Mona Offshore Wind Project.

1.1.1.2 Action Point 1 is set out in the Issue Specific Hearing Note 2 (document reference EV1-006) and requires:

The Applicant to review and, where necessary, amend Table 3.34 [of Volume 3, Chapter 3: Onshore Ecology] (APP-066) to address significance of effects and residual effects anomalies.

1.2 Response

1.2.1.1 The Applicant has reviewed Table 3.34 and Table 3.35 of Volume 3, Chapter 3: Onshore Ecology (APP-066) against the assessment of significant effects and the cumulative effects assessment (as reported in section 3.9 and section 3.12) of Volume 3, Chapter 3: Onshore Ecology (APP-066). The Applicant confirms that assessment conclusions in section 3.9 and section 3.12 are correct and remain unchanged. Where inconsistencies have been identified in Tables 3.34 and Table 3.35 these have been amended in the tables within this document.

1.2.1.2 Table 1.1 and Table 1.2 in this document supersede Table 3.34 and Table 3.35 in Volume 3, Chapter 3: Onshore Ecology (APP-066).

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Table 1.1: 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.
Temporary and permanent habitat loss of 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.

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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 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. CoCP and LEMP secured under the requirement of the DCO.	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 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 flight 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.

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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 European eel.	✓	×	✓	<p>Pre-construction surveys.</p> <p>Commitment to use trenchless techniques to cross seven of the nine watercourses along the Mona Onshore Cable Connection Route.</p> <p>Crossing design to minimise the length of watercourse affected by each crossing.</p> <p>The use of pipe flumes to maintain water flow at crossings.</p> <p>CoCP and LEMP secured under the requirement of the DCO.1</p>	Low	High	Minor adverse	None proposed	Minor adverse	None proposed
Temporary and permanent habitat loss on GCN.	✓	×	✓	<p>EPS mitigation licence to cover all licensable impacts on GCN.</p> <p>Preconstruction surveys to ensure the EPS mitigation licence is informed by current survey information.</p> <p>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).</p> <p>CoCP and LEMP secured under the requirement of the DCO.</p>	Low	Medium	Minor beneficial	None proposed	Minor beneficial	<p>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.</p> <p>Monitoring of new woodland and hedgerow planting, new grassland creation and pond creation to ensure establishment to specification as specified in the LEMP.</p>
Temporary and permanent habitat loss on hazel dormouse.	✓	×	✓	<p>EPS mitigation licence to cover all licensable impacts on hazel dormouse.</p> <p>Preconstruction surveys to ensure the EPS mitigation licence is informed by current survey information.</p> <p>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.</p> <p>CoCP and LEMP secured under the requirement of the DCO.</p>	Low	Medium	Minor beneficial	None proposed	Minor beneficial	<p>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.</p>
Temporary and permanent habitat loss on otter.	✓	×	✓	<p>Pre-construction surveys.</p> <p>Commitment to use trenchless techniques for cable installation beneath three watercourses.</p> <p>Crossing design to minimise the length of watercourse affected by each crossing.</p> <p>The use of pipe flumes to maintain water flow at crossings.</p> <p>CoCP and LEMP secured under the requirement of the DCO.</p>	Low	Medium	Minor adverse	None proposed	Minor adverse	None proposed
Temporary and permanent habitat loss on Water vole.	✓	×	✓	<p>Pre-construction surveys.</p> <p>Commitment to use trenchless techniques for cable installation beneath three watercourses.</p>	Low	Medium	Minor adverse	None proposed	Minor adverse	None proposed

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	C	O	D							
				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.						
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 Gwrych Castle Wood SSSI.	✓	✓	✓	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
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

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	C	O	D							
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

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	C	O	D							
				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 flight 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	✓	✓	✓	EPS mitigation licence to cover all licensable impacts on hazel dormouse.	Low	Medium	Minor adverse	None proposed	Minor adverse	Ongoing monitoring of habitats within and adjacent to the Mona

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	C	O	D							
impacts on hazel dormouse				<p>Preconstruction surveys to ensure the EPS mitigation licence is informed by current survey information.</p> <p>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.</p> <p>CoCP and LEMP secured under the requirement of the DCO.</p>						<p>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.</p> <p>Monitoring of new hedgerow planting, to ensure establishment to specification as specified in the LEMP.</p>
Habitat disturbance impacts on otter	✓	✓	✓	<p>Pre-construction surveys.</p> <p>Commitment to use trenchless techniques for cable installation beneath three watercourses.</p> <p>Crossing design to minimise the length of watercourse affected by each crossing.</p> <p>The use of pipe flumes to maintain water flow at crossings.</p> <p>CoCP and LEMP secured under the requirement of the DCO.</p>	Low	Medium	Minor adverse	None proposed	Minor adverse	None proposed
Habitat disturbance impacts on Water vole	✓	✓	✓	<p>Pre-construction surveys.</p> <p>Commitment to use trenchless techniques for cable installation beneath three watercourses.</p> <p>Crossing design to minimise the length of watercourse affected by each crossing.</p> <p>The use of pipe flumes to maintain water flow at crossings.</p> <p>CoCP and LEMP secured under the requirement of the DCO.</p>	Low	Medium	Minor adverse	None proposed	Minor adverse	None proposed
Habitat disturbance impacts on reptiles	✓	✓	✓	<p>Trapping and relocation of reptiles as part of GCN trapping and relocation.</p> <p>Incorporating replacement habitat for reptiles as part of the GCN mitigation strategy.</p> <p>CoCP and LEMP secured under the requirement of the DCO.</p>	Negligible	Medium	Negligible	None proposed	Negligible	<p>Monitoring of sites where access was not possible in 2023 or a full suite of surveys was not completed due to seasonal constraints.</p> <p>Monitoring of new grassland creation (reptile habitat) to ensure establishment to specification as specified in the LEMP.</p>
Habitat disturbance impacts on terrestrial invertebrates	✓	✓	✓	<p>New woodland and species rich hedgerow planting and new wildflower grassland creation.</p> <p>CoCP and LEMP secured under the requirement of the DCO.</p>	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	✓	✓	✓	<p>New pond creation as part of GCN mitigation to provide new habitat for aquatic invertebrates.</p>	Negligible	Low	Negligible	None proposed	Negligible	Monitoring of new pond creation to ensure establishment to

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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							
aquatic invertebrates				CoCP and LEMP secured under the requirement of the DCO.						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 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	N/A	No change	None proposed
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	✓	✗	✓	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

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	C	O	D							
Coed y Season LWSs.										
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 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. 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
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.	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.

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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
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				Use of sensitive lighting to avoid light spill on roosts and flight 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.						
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 setts 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.

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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							
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 with 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.

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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							
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 Non-native Species (INNS).	✓	✗	✓	CoCP secured under the DCO.	Negligible	High	Minor adverse	None proposed	Minor adverse	CoCP secured under the DCO.

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Table 1.2. Summary of potential cumulative environmental effects, mitigation, and monitoring.
^a C=construction, O=operational and maintenance, D=decommissioning

Description of effect	Phase ^a			Measures adopted as part of the project	Magnitude of impact	Sensitivity of the receptor	Significance of effect	Further mitigation	Residual effect	Proposed monitoring
	C	O	D							
Tier 1										
Temporary and permanent habitat loss impacts on GCN	✓	✗	✓	<p>EPS mitigation licence to cover all licensable impacts on GCN.</p> <p>Preconstruction surveys to ensure the EPS mitigation licence is informed by current survey information.</p> <p>GCN trapping and relocation, and provision new terrestrial and aquatic GCN habitat as specified in the EPS mitigation licence.</p> <p>CoCP and LEMP (including a GCN mitigation strategy) secured under the DCO.</p>	Low	Medium	Minor beneficial	None proposed	Minor beneficial	<p>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.</p> <p>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.</p> <p>Monitoring of new woodland and hedgerow planting new grassland creation and pond creation to ensure establishment to specification as specified in the LEMP.</p>
Temporary and permanent habitat loss impacts on bats	✓	✗	✓	<p>EPS mitigation licence to cover all licensable impacts on bats.</p> <p>Preconstruction surveys to ensure the EPS mitigation licence is informed by current survey information.</p> <p>Provision of replacement roosts to mitigate roost loss, to be specified in the EPS mitigation licence.</p> <p>Use of temporary hedgerows to maintain flight lines during construction.</p> <p>Use of sensitive lighting to avoid light spill on roosts and flight lines where artificial lighting is required.</p> <p>Reinstatement of hedgerows and new hedgerows and woodland planting.</p> <p>CoCP and LEMP secured under the DCO.</p>	Low to Medium	High	Minor adverse	None proposed	Minor adverse	<p>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.</p> <p>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.</p>
Temporary and permanent habitat loss impacts on badger	✓	✗	✓	<p>Site layout and design to minimise the number of setts affected.</p> <p>Closure of badger setts under an NRW licence.</p> <p>Preconstruction surveys to ensure the EPS mitigation licence is informed by current survey information.</p> <p>CoCP and LEMP secured under the DCO.</p>	Low	Medium	Minor adverse	None proposed	Minor adverse	<p>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.</p> <p>Ongoing monitoring of sets in 2024 and pre-construction surveys.</p>

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Description of effect	Phase ^a			Measures adopted as part of the 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 impacts on reptiles	✓	✗	✓	<p>Trapping and relocation of reptiles as part of GCN trapping and relocation.</p> <p>Incorporating replacement habitat for reptiles as part of the GCN mitigation strategy.</p> <p>CoCP and LEMP secured under the DCO.</p>	Low	Medium	Minor beneficial	None proposed	Minor beneficial	<p>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.</p> <p>Monitoring of sites where access was not possible in 2023 or a full suite of surveys was not completed due to seasonal constraints.</p> <p>Monitoring of new reptile habitat creation (wildflower and tussocky grassland) to ensure establishment to specification.</p>
Temporary and permanent habitat loss of hedgerows	✓	✗	✓	<p>Site layout design to minimise loss with the majority of hedgerows being retained.</p> <p>Minimising extent of loss where it is unavoidable.</p> <p>Replacement and new species rich hedgerow planting with trees.</p> <p>CoCP and LEMP secured under the DCO.</p>	Medium	Medium	Minor beneficial	None proposed	Minor beneficial	<p>Pre-construction survey of all hedgerows with the aim to provide advice on the less valuable sections of hedgerow to be removed, if required.</p> <p>Monitoring of new hedgerow planting to ensure establishment to specification as specified</p> <p>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.</p>
Habitat disturbance impacts on bats	✓	✓	✓	<p>EPS mitigation licence to cover all licensable impacts on bats.</p> <p>Preconstruction surveys to ensure the EPS mitigation licence is informed by current survey information.</p> <p>Provision of replacement roosts to mitigate roost loss, to be specified in the EPS mitigation licence.</p> <p>Use of temporary hedgerows to maintain flight lines during construction.</p> <p>Use of sensitive lighting to avoid light spill on roosts and flight lines where artificial lighting is required.</p> <p>Reinstatement of hedgerows and new hedgerow and woodland planting.</p> <p>CoCP and LEMP secured under the DCO.</p>	Low	High	Minor adverse	None proposed	Minor adverse	<p>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.</p> <p>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.</p>
Habitat disturbance impacts on badgers	✓	✓	✓	<p>Site layout and design to minimise the number of setts affected.</p> <p>Closure of badger setts under an NRW licence.</p>	Negligible	Medium	Minor adverse	None proposed	Minor adverse	<p>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.</p> <p>Ongoing monitoring of sets in 2024 and pre-construction surveys.</p>

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Description of effect	Phase ^a			Measures adopted as part of the project	Magnitude of impact	Sensitivity of the receptor	Significance of effect	Further mitigation	Residual effect	Proposed monitoring
	C	O	D							
				<p>Preconstruction surveys to ensure the EPS mitigation licence is informed by current survey information.</p> <p>CoCP and LEMP secured under the DCO.</p>						
Tier 3										
Temporary and permanent loss of GCN habitat,	✓	✗	✓	<p>EPS mitigation licence to cover all licensable impacts on GCN.</p> <p>Preconstruction surveys to ensure the EPS mitigation licence is informed by current survey information.</p> <p>GCN trapping and relocation, and provision new terrestrial and aquatic GCN habitat as specified in the EPS mitigation licence.</p> <p>CoCP and LEMP (including a GCN mitigation strategy) secured under the DCO.</p>	Negligible	High	Negligible	None proposed	Negligible	<p>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.</p> <p>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.</p> <p>Monitoring of new woodland and hedgerow planting new grassland creation and pond creation to ensure establishment to specification as specified in the LEMP.</p>
Habitat disturbance and fragmentation impacts on bats	✓	✓	✓	<p>EPS mitigation licence to cover all licensable impacts on bats.</p> <p>Preconstruction surveys to ensure the EPS mitigation licence is informed by current survey information.</p> <p>Provision of replacement roosts to mitigate roost loss, to be specified in the EPS mitigation licence.</p> <p>Use of temporary hedgerows to maintain flight lines during construction.</p> <p>Use of sensitive lighting to avoid light spill on roosts and flight lines where artificial lighting is required.</p> <p>Reinstatement of hedgerows and new hedgerow and woodland planting.</p> <p>CoCP and LEMP secured under the DCO.</p>	Negligible	High	Negligible	None proposed	Negligible	<p>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.</p> <p>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.</p>
Habitat disturbance and fragmentation impacts on reptiles	✓	✓	✓	<p>Trapping and relocation of reptiles as part of GCN trapping and relocation.</p> <p>Incorporating replacement habitat for reptiles as part of the GCN mitigation strategy.</p> <p>CoCP and LEMP secured under the DCO.</p>	Negligible	Medium	Negligible	None proposed	Negligible	<p>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.</p> <p>Monitoring of sites where access was not possible in 2023 or a full suite of surveys was not completed due to seasonal constraints.</p>

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Description of effect	Phase ^a			Measures adopted as part of the project	Magnitude of impact	Sensitivity of the receptor	Significance of effect	Further mitigation	Residual effect	Proposed monitoring
	C	O	D							
										Monitoring of new reptile habitat creation (wildflower and tussocky grassland) to ensure establishment to specification.
Habitat disturbance and fragmentation impacts on GCN	✓	✓	✓	<p>EPS mitigation licence to cover all licensable impacts on GCN.</p> <p>Preconstruction surveys to ensure the EPS mitigation licence is informed by current survey information.</p> <p>GCN trapping and relocation, and provision new terrestrial and aquatic GCN habitat as specified in the EPS mitigation licence.</p> <p>CoCP and LEMP (including a GCN mitigation strategy) secured under the DCO.</p>	Negligible	Medium	Negligible	None proposed	Negligible	<p>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.</p> <p>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.</p> <p>Monitoring of new woodland and hedgerow planting new grassland creation and pond creation to ensure establishment to specification as specified in the LEMP.</p>