

# MONA OFFSHORE WIND PROJECT

## Preliminary Environmental Information Report

volume 7, annex 24.1: Onshore Ornithology - Wintering and Migratory Birds Technical Report



April 2023  
FINAL

Image of an offshore wind farm

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**Prepared by:**

**RPS**

**Prepared for:**

**Mona Offshore Wind Ltd.**

## Contents

<b>1</b>	<b>ONSHORE ORNITHOLOGY WINTERING AND MIGRATORY BIRDS TECHNICAL REPORT .....</b>	<b>1</b>
1.1	Introduction .....	1
1.1.1	Background.....	1
1.1.2	Onshore ornithology wintering and migratory birds search area.....	1
1.1.3	Onshore ornithology wintering and migratory birds study area .....	1
1.1.4	Relevant legislation.....	1
1.1.5	Consultation .....	2
1.2	Methodology.....	5
1.2.1	Desktop study methodology .....	5
1.2.2	Field survey methodology .....	5
1.3	Results .....	6
1.3.1	Designated sites .....	6
1.3.2	Habitats present.....	6
1.3.3	Bird assemblages .....	9
1.3.4	Local records results.....	11
1.4	Summary.....	11
1.5	References.....	11

## Tables

Table 1.1:	Summary of key desktop sources.....	5
Table 1.2:	Designated sites within the onshore ornithology breeding birds search area. ....	6
Table 1.3:	Approximate area of habitats within the onshore ornithology wintering and migratory birds study area. ....	7
Table 1.4:	Summary of the target species and the winter habitats which they are likely to be associated with. ....	9
Table 1.5:	Species with Cofnod records within the onshore ornithology wintering and migratory birds study area screened out of the target list. ....	11

## Figures

Figure 1.1:	Onshore ornithology wintering and migratory birds search area.....	3
Figure 1.2:	Onshore ornithology wintering and migratory birds study area. ....	4
Figure 1.3:	The broadscale wintering habitats available within the onshore ornithology wintering and migratory birds study area.....	8

## Glossary

Term	Meaning
Birds Of Conservation Concern 5 (BOCC5)	A list of species whose UK populations are endangered or in decline, or internationally sensitive species.
Cofnod	North Wales Environmental Information Service.
Local Environmental Records Centre (LERC)	Where all biological records of local wildlife sightings are collated.
Mean High Water Spring (MHWS)	The average height of spring high tides, as marked on OS maps.
Sites of Special Scientific Interest	An area protected for its biological or geological features.
Special Protection Area (SPA)	An area protected under law for its internationally or nationally important numbers of migratory bird species.

## Acronyms

Acronym	Description
BOCC	Birds Of Conservation Concern
BTO	British Trust for Ornithology
LERC	Local Environmental Records Centre
LNR	Local Nature Reserves
LWS	Local Wildlife Sites
MHWS	Mean High Water Spring
NERC	Natural Environment and Rural Communities
NNR	National Nature Reserves
PEIR	Preliminary Environmental Information Report
pSPA	Possible SPAs
SPA	Special Protection Area
SSSI	Sites of Special Scientific Interest

## Units

Unit	Description
ha	Hectares
kV	Kilovolts
m	Metre
m <sup>2</sup>	Square metres

# 1 ONSHORE ORNITHOLOGY WINTERING AND MIGRATORY BIRDS TECHNICAL REPORT

## 1.1.1 Introduction

## 1.1.2 Background

1.1.2.1 Mona Offshore Wind Limited (the Applicant), a joint venture of bp Alternative Energy investments Ltd (hereafter referred to as bp) and Energie Baden-Württemberg AG (hereafter referred to as EnBW) is developing the Mona Offshore Wind Project. The Mona Offshore Wind Project is a proposed offshore wind farm located in the east Irish Sea. The Mona Proposed Onshore Development Area is located between Llandulas on the North Wales coast, and St Asaph to the south of Rhyl, straddling two local authorities, Conwy and Denbighshire (Figure 1.1).

1.1.2.2 The Mona Proposed Onshore Development Area runs inland from the Mona Proposed Landfall, for 18km (Figure 1.1). The west end of the Mona Proposed Onshore Development Area starts at Mean High Water Spring (MHWS) where it lies adjacent to the boundary of the Liverpool Bay Special Protection Area (SPA) and is approximately 10.6km southwest from the Dee Estuary SPA and Ramsar site (Figure 1.1). These sites are of international importance to waterbird species, primarily during migration or over-wintering periods.

1.1.2.3 In contrast to the importance of these intertidal and offshore habitats, eastwards and onshore from the landfall, the Mona Proposed Onshore Development Area is only of local value to wintering birds, consisting mainly of improved pasture used for sheep grazing and arable farming (Figure 1.3). The fields are ornithologically impoverished and of low value for species of wintering birds. Patches of woodland and stretches of hedgerow are better quality habitat but are still only of local importance for wintering species. There are no major watercourses and very limited wetland habitat.

1.1.2.4 This report presents the findings of a detailed desk top study, which was undertaken to identify sensitive wintering and migratory ornithological receptors located within the Mona Proposed Onshore Development Area. This report also describes the methods used to characterise the baseline bird interests and habitats, and presents the results of the desk-based studies.

1.1.2.5 Although site specific surveys have not yet been reported, the results of this desk study were used to inform the target species list, which was used to inform walkover surveys undertaken between November 2022 and February 2023.

1.1.2.6 Target species are defined as birds which fall into any of the categories below, along with any additional species that were identified with local sensitivities during the desk top study (Table 1.4):

- EU Birds Directive Annex I and regularly occurring migratory species.
- Schedule 1 of the Wildlife and Countryside Act.
- Section 7 species of the Environment (Wales) Act 2016.
- A qualifying interest of a nearby SPA or SSSI.

- Red or Amber-listed Birds of Conservation Concern (BOCC5) (Stanbury *et al.* 2021).

1.1.2.7 This baseline information, in conjunction with volume 7, annex: 24.2: Intertidal ornithology and volume 7, annex: 24.3: Onshore Ornithology – breeding birds has been used to inform the assessment reported in volume 3, chapter 24: Onshore and intertidal ornithology of the Preliminary Environmental Information Report (PEIR).

1.1.2.8 Throughout this report, the order in which birds are presented is based upon the widely used Voous order (Voous, 1977), which lists birds by broad categories based on their physiology and ornithology.

1.1.2.9 In the absence of having a fixed route to survey during the 2021 to 2022 winter period, preliminary ecological information is provided in the form of a desk top study only. However, further wintering and migratory bird surveys were completed between November 2022 and February 2023.

1.1.2.10 The findings of walkover surveys undertaken between November 2022 and February 2023 will be provided within volume 7, annex: 24.1: Onshore ornithology – wintering and migratory birds of the Environmental Statement.

## 1.1.3 Onshore ornithology wintering and migratory birds search area

1.1.3.1 The onshore ornithology wintering and migratory birds search area covers:

1. Internationally designated ornithological sites, specifically SPAs, possible SPAs (pSPAs), and Ramsar sites located within 20km of the Mona Proposed Onshore Development Area
2. Nationally designated sites, specifically Sites of Special Scientific Interest (SSSIs) and National Nature Reserves (NNRs), located within 5km of the Mona Proposed Onshore Development Area
3. Locally designated sites, specifically Local Nature Reserves (LNR) and Local Wildlife Sites (LWS), located within 2km of the Mona Proposed Onshore Development Area.

## 1.1.4 Onshore ornithology wintering and migratory birds study area

1.1.4.1 The second area is the Mona Proposed Onshore Development Area plus a 250 metre (m) buffer. The 250m buffer is included to take account of bird interests that may occur adjacent or close to the Mona Proposed Onshore Development Area. This distance is based on potential disturbance distances for target species (Hötker, et al., 2006; Cutts, et al., 2013; Goodship and Furness, 2022).

1.1.4.2 The onshore ornithology wintering and migratory birds study area represents the area within which wintering and migratory bird surveys were undertaken over the 2022 to 2023 winter period.

## 1.1.5 Relevant legislation

1.1.5.1 There are three key pieces of legislation that protect wintering birds under UK and Welsh and UK law. The Wildlife and Countryside Act (1981), as amended, the Conservation of Habitats and Species Regulations 2017 (as amended), and the Environment (Wales) Act 2016.

## MONA OFFSHORE WIND PROJECT

- 1.1.5.2 All wild birds are protected under the Wildlife and Countryside Act (1981), as amended. This legislation makes it an offence to intentionally or recklessly:
- Kill, injure or take any wild bird (excluding certain specified game and other licence-controlled species).
- 1.1.5.3 European Council Directive 2009/147/EC (otherwise known as the Birds Directive on the conservation of wild birds), recognised that habitat loss and degradation are the most serious threats to the conservation of wild birds. It stated that all member States must designate SPAs for the survival of all Annex 1 species, sub-species, and all migratory bird species. After leaving the European Union certain elements of the Birds Directive were transposed into UK law through the Conservation of Habitats and Species Regulations 2017 (as amended). This has created a national site network to ensure continued protection for existing SPAs and any new sites designated under these regulations.
- 1.1.5.4 Section 7 under Part 1 of the Environment (Wales) Act 2016 replaces the duty in section 42 of the Natural Environment and Rural Communities (NERC) Act 2006. Under the 2016 legislation Welsh Ministers must “*publish, review and revise lists of living organisms and types of habitat in Wales, which they consider are of key significance to sustain and improve biodiversity in relation to Wales*”. The Welsh Ministers must also take all reasonable steps to maintain and enhance the living organisms and types of habitat included in any list published under this section and encourage others to take such steps.

### 1.1.6 Consultation

- 1.1.6.1 No consultation to agree survey methodologies for onshore wintering and migratory birds surveys has taken place pre-submission of the PEIR. However, onshore wintering and migratory birds have been discussed with stakeholders through the Onshore Ecology Expert Working Group (EWG) meetings, which were used as a platform to share survey findings. The Onshore Ecology EWG will be used to agree the scope and methodology of further surveys (if required) following PEIR responses.

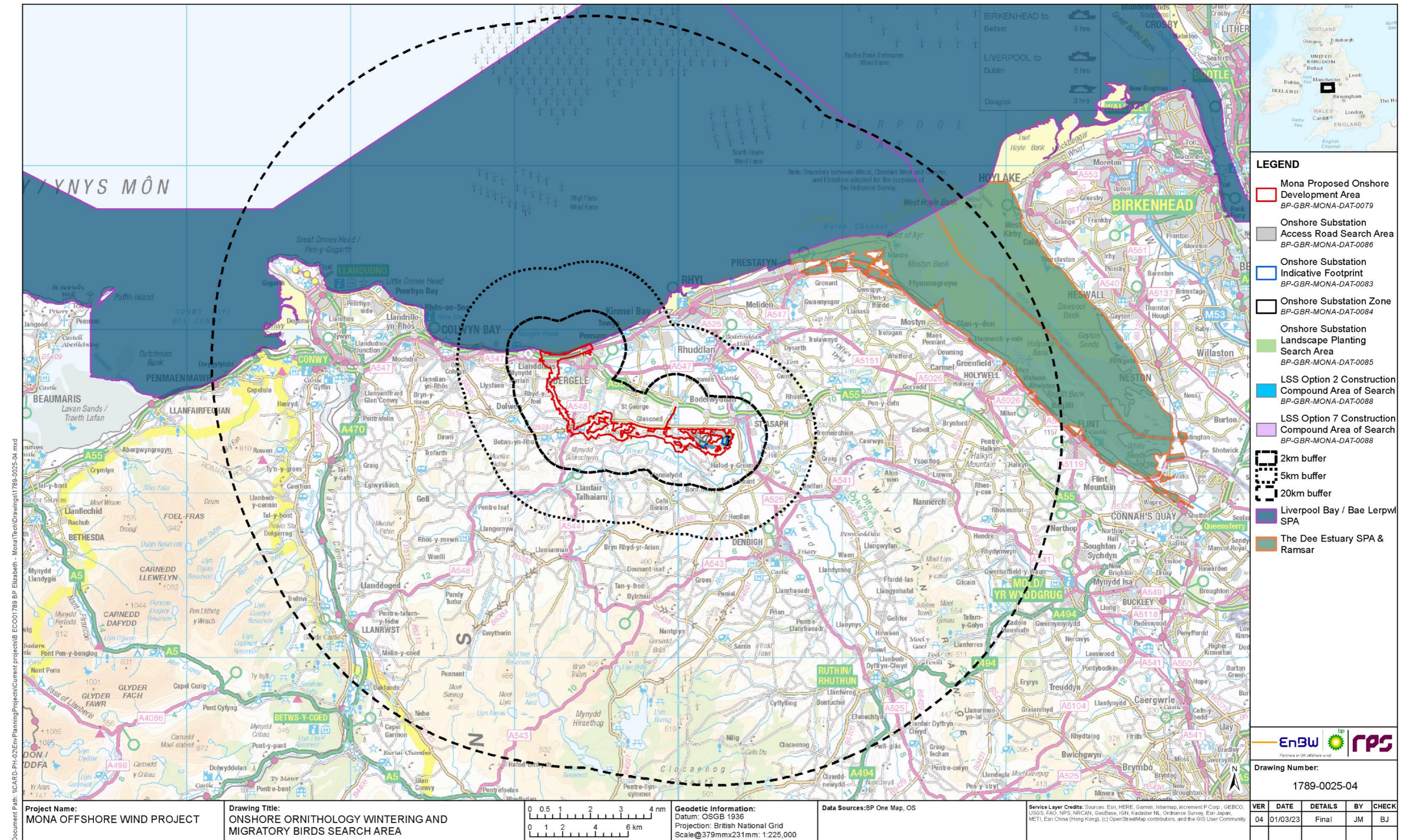


Figure 1.1: Onshore ornithology wintering and migratory birds search area.



Figure 1.2: Onshore ornithology wintering and migratory birds study area.



## 1.2 Methodology

### 1.2.1 Desktop study methodology

1.2.1.1 Information on onshore wintering and migratory birds within the onshore ornithology wintering and migratory birds search area was collected through a detailed desktop review of existing studies and datasets. These are summarised in Table 1.1 below.

**Table 1.1: Summary of key desktop sources.**

Title	Source	Year	Author
Bird records for the Mona Proposed Onshore Development Area plus 2km buffer	North Wales LERC (Cofnod)	2022	N/A
Bird Atlas 2007-11	British Trust for Ornithology (BTO)	2013	Balmer, D., Gillings, S., Caffrey, B., Swann, B., Downie, I., Fuller, R.
The status of bird populations: The status of our bird populations: the fifth Birds of Conservation Concern (BOCC) in the United Kingdom, Channel Islands and Isle of Man and second IUCN Red List assessment of extinction risk for Great Britain.	British Birds	2021	Stanbury, A., Eaton, M., Aebischer, N., Balmer, D., Brown, A., Douse, A., Lindley, P., McCulloch, N., Noble, D., and Win I.
Birds of Conservation Concern Wales 4: the population status of birds in Wales	Milvus	2022	Johnstone, I.G., Hughes, J., Balmer, D., Brenchley, A., Facey, R.J., Lindley, P.J., Noble, D.G., Taylor, R.
Birds in Wales	The Welsh Ornithological Society	2018	Edited by Hughes, J.

1.2.1.2 Following the screening approach to designated sites, as set out in the Mona Offshore Wind Project EIA Scoping Report (Mona Offshore Wind Limited, 2022), internationally designated sites within a 20km buffer, nationally designated sites within 5km buffer, and locally designated sites within 2km buffer around the Mona Proposed Onshore Development Area were identified for potential pathways for mobile avian species.

#### International designations

1.2.1.3 A 20km radius was the distance set out in the Mona Offshore Wind Project EIA Scoping Report (Mona Offshore Wind Limited, 2022) for internationally designated SPAs and Ramsar sites, as this is the known core foraging distance for many species of geese (NatureScot, formerly Scottish Natural Heritage, 2016), which are among the more mobile of terrestrial SPA features. The citations of designated sites were checked for any wintering ornithological features/species of interest that may have impact pathways to the Mona Proposed Onshore Development Area.

#### National designations

1.2.1.4 5km was the distance set out in the Mona Offshore Wind Project EIA Scoping Report (Mona Offshore Wind Limited, 2022) for nationally designated SSSI and NNNRs. However, as part of the screening process citations for SSSIs and NNRs were routinely checked to 20km to assess for connectivity. No connectivity was found for onshore wintering and migratory birds for the nationally designated sites within the 5km to 20km radius of the Mona Proposed Onshore Development Area. SSSIs and NNRs with coastal ornithological interests are discussed in volume 7: annex 24.2: Intertidal ornithology of the PEIR.

#### Local designations

1.2.1.5 2km was the distance set out in the Mona Offshore Wind Project EIA Scoping Report (Mona Offshore Wind Limited, 2022) for locally designated LWSs and LNRs. Due to the habitats available in the onshore ornithology wintering and migratory birds study area (see section 1.3.2), passerine species were primarily considered and a 2km study area distance was thought to be sufficient to assess connectivity to these locally designated sites.

1.2.1.6 The Mona Proposed Onshore Development Area was then subsequently mapped in terms of broad habitat classifications. Each of these habitat types was assigned a species assemblage based on known wintering habitat preferences.

1.2.1.7 These species known ranges were then checked using the BTO Bird Atlas 2007-11 (Balmer, *et al.*, 2013). As rarities are hard to account for and may turn up at any place and at any time, all birds which do not frequently use the region for wintering were screened out (this decision was based on previous field survey experience and was made using professional judgement). The remaining birds' protected status and population trends were then checked using the Wildlife and Countryside Act (1981), as amended; the Birds Directive, 2009; the UK BOCC (BOCC 5) lists (Stanbury, *et al.*, 2021), and the Welsh BOCC (BOCC 4) lists (Johnstone, *et al.*, 2022). Any common and widespread species (i.e. not protected under the Wildlife and Countryside Act (1981) or listed in the Birds Directive 2009 or UK or Welsh BOCC) were screened out.

1.2.1.8 Finally, the list was checked against the Welsh Ornithological Societies' 'Birds in Wales 2018' (The Welsh Ornithological Society, 2018) county lists to check that no important wintering populations had been missed.

1.2.1.9 In addition, local bird records were requested and obtained from the Cofnod (North Wales Environmental Information Service), which supplied bird records within 2km of the Mona Proposed Onshore Development Area (from 2010 onwards). All migratory bird species which only occur within the region outside of the wintering season were then screened out, leaving a list of birds which may reasonably be assumed to winter within the local area over the last 12 years. The local records were supplied with detailed grid reference coordinates and have been drawn up as a series of figures.

#### 1.2.2 Field survey methodology

1.2.2.1 In the absence of having a fixed route to survey during the 2021 to 2022 winter period, preliminary ecological information is provided in the form of a desk top study only. However, the findings of walkover surveys undertaken between November 2022 and

- February 2023 will be provided within volume 7, annex: 24.1: Onshore ornithology – wintering and migratory birds of the Environmental Statement.
- 1.2.2.2 The field surveys comprised two walkover surveys undertaken between November 2022 and February 2023. The purpose of these field surveys was to identify any terrestrial wintering ornithological sensitivities that may be present in the onshore ornithology wintering and migratory birds study area.
- 1.2.2.3 Two survey visits were completed, one in November/December 2022 and one in February 2023. Both survey visits were undertaken during daylight hours. In addition, walkover surveys were only conducted in good weather and not during periods of heavy precipitation, strong winds (Beaufort Wind Force of 5) or very poor visibility (less than 100m).
- 1.2.2.4 The survey methods followed were adapted from the Common Bird Census (CBC) as taken from Gilbert et al. (1998) to help identify which bird species are utilising the onshore ornithology wintering and migratory birds study area during the winter months.
- 1.2.2.5 Where access was achieved, the walkover survey routed as close as possible to all areas of the habitat. During the walkover, surveyors recorded and mapped all target species, including any other protected birds or BOCC, which are seen or heard along the route, using standard BTO abbreviations. Where possible, all behaviour, sex, and age were noted using standard BTO symbology. All inaccessible areas located within the onshore ornithology wintering and migratory birds study area were scanned using optics where possible.
- 1.2.2.6 Due to the reasons identified above, the list of species which were the focus of walkover surveys ('the target list') undertaken between November 2022 and February 2023 were derived from the desktop study, which is presented in the following sections of this report below.
- 1.2.2.7 All surveys were carried out by competent field ornithologists suitably trained and experienced in undertaking the survey methodologies identified in this report.

## 1.3 Results

### 1.3.1 Designated sites

- 1.3.1.1 Two SPAs and one Ramsar were identified within the onshore ornithology wintering and migratory birds search area. These are the Dee Estuary SPA and Ramsar site and the Liverpool Bay SPA.

**Table 1.2: Designated sites within the onshore ornithology breeding birds search area.**

Site name	Designation(s)	Distance	Wintering species named in citation
Dee Estuary	SPA and Ramsar site	10.9km	Shelduck <i>Tadorna tadorna</i>
			Teal <i>Anas crecca</i>
			Pintail <i>Anas acuta</i>
			Oystercatcher <i>Haematopus ostralega</i>
			grey plover <i>Pluvialis squatarola</i>
			Knot <i>Calidris canutus</i>

Site name	Designation(s)	Distance	Wintering species named in citation
Liverpool Bay	SPA	0.2km	Dunlin <i>Calidris alpina</i>
			bar-tailed godwit <i>Limosa lapponica</i>
			black-tailed godwit <i>Limosa limosa</i>
			Curlew <i>Numenius arquata</i>
			Redshank <i>Tringa tetanus</i>
			Assemblage qualification: great crested grebe <i>Podiceps cristatus</i> ; cormorant <i>Phalacrocorax carbo</i> ; wigeon <i>Mareca Penelope</i> ; lapwing <i>Vanellus vanellus</i> and sanderling <i>Calidris alba</i> .
Liverpool Bay	SPA	0.2km	Common scoter <i>Melanitta nigra</i>
			red-throated diver <i>Gavia stellata</i>
			little gull <i>Hydrocoloeus minutus</i>
			Assemblage qualification: red-breasted merganser <i>Mergus serrator</i> and cormorant.

- 1.3.1.2 The Dee Estuary SPA and Ramsar sites are designated for their wintering waterfowl and wader species. At 10.9km from the Dee estuary, the onshore ornithology wintering and migratory birds study area is unlikely to contain significant roosts of these SPA features. High tide roosts checks are currently underway. The findings of these high tide roosts checks will be reported in volume 7, annex: 24.2: Intertidal ornithology the Environmental Statement.

- 1.3.1.3 The Liverpool Bay SPA is notified for its seabird assemblage. Neither common scoter, red-throated diver, nor little gull spend time onshore during the wintering period. Although red-breasted merganser is occasionally found in fresh water over winter, the lack of large waterbodies within the onshore ornithology wintering and migratory birds search area means that these species are unlikely to be present. Cormorant may feasibly have onshore roosts located along the coast. However, these are the remit of the intertidal surveys which are presented in volume 7, annex 24.2: Intertidal ornithology – wintering and migratory birds (interim report).

- 1.3.1.4 There were no national sites (e.g. SSSI, NNR) designated for wintering ornithological species within 5km, and no local sites (e.g. LNR, LWS) designated for ornithological species within 2km of the Mona Proposed Onshore Development Area.

### 1.3.2 Habitats present

- 1.3.2.1 The results of the habitat mapping exercise described in section 1.2 above is presented in Table 1.3 and illustrated in Figure 1.3 of this report.
- 1.3.2.2 The onshore ornithology wintering and migratory birds study area is characterised by grassland habitats. Grassland/pasture was the most common habitat type within the onshore ornithology wintering and migratory birds study area and arable was the second most common habitat type.

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1.3.2.3 In addition, the onshore ornithology wintering and migratory birds study area is interwoven with a mixture of woodland, scrub and small amounts of coastal habitats are present at the coast.

1.3.2.4 Within this habitat matrix there will also be hedgerows and buildings that can be utilised by wintering and migratory birds. Descriptions of the habitat utilisation by birds is presented in Table 1.3 of this report below.

**Table 1.3: Approximate area of habitats within the onshore ornithology wintering and migratory birds study area.**

Habitat type	Onshore ornithology breeding birds study area (%)
Grassland/pasture	63.5
Arable	9.0
Intertidal	8.5
Built environment	6.6
Mixed woodland	5.8
Deciduous woodland	3.2
Parkland	2.1
Scrub	1.0
Sand dunes	0.2
Ponds	0.1

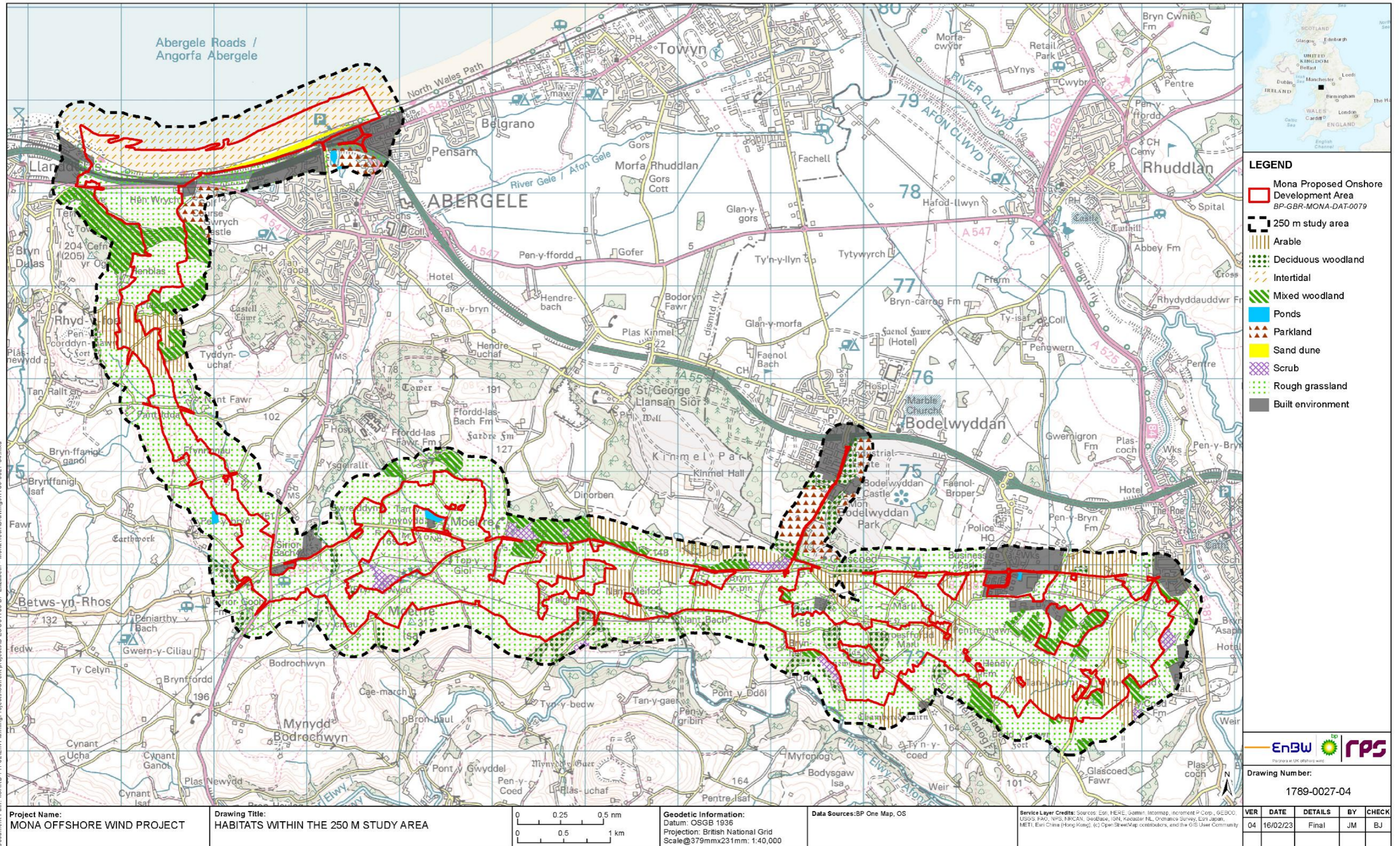


Figure 1.3: The broadscale wintering habitats available within the onshore ornithology wintering and migratory birds study area.

### 1.3.3 Bird assemblages

1.3.3.1 The following assemblages were produced through analysis of known wintering ranges, as taken from the Bird Atlas 2007 – 2011 (Balmer, et al., 2016) and Birds in Wales – 2018 (Welsh Ornithological Society, 2018). Notes have been added for rare or notable species. Where no note has been added, the birds are assumed to be fairly typical for the area.

1.3.3.2 The inclusion of a species within a habitat category does not preclude it from using other habitats, and multiple species will utilise many of the habitats present within onshore ornithology wintering and migratory birds study area. This list formed the basis for target species during the walkover surveys undertaken between November 2022 and February 2023.

**Table 1.4: Summary of the target species and the winter habitats which they are likely to be associated with.**

Habitat type	Description of habitat	Local birds typical of this habitat
Grassland/pasture	These habitats are characterised by open space and grass. Usefulness to wintering birds may depend upon drainage, with many waders preferring wet pasture. Different species of birds also prefer different sward heights and species composition. During the winter months bird hunting raptors follow the winter flocks and often hunt over open habitats.	<p>Merlin <i>Falco columbaris</i> – Relatively high wintering densities within 20km of Dee Estuary (Balmer, et al., 2013). Cofnod records within 2km of the onshore ornithology wintering and migratory birds study area</p> <p>Peregrine <i>Falco peregrinus</i> – Cofnod records within 2km of the onshore ornithology wintering and migratory birds study area</p> <p>Golden plover <i>Pluvalis apricaria</i> – unlikely to be present in great numbers (Balmer, et al., 2013)</p> <p>Lapwing</p> <p>Curlow – Cofnod records within 2km of the onshore ornithology wintering and migratory birds study area</p> <p>Snipe <i>Gallinago gallinago</i> – Cofnod records within 2km of the onshore ornithology wintering and migratory birds study area</p> <p>Jack snipe <i>Gallinago minimus</i></p> <p>Mediterranean gull <i>Larus melanocephalus</i> – Cofnod records within 2km of the onshore ornithology wintering and migratory birds study area</p> <p>Common gull <i>Larus canus</i> – Cofnod records within 2km of the onshore ornithology wintering and migratory birds study area</p> <p>Herring gull <i>Larus argentus</i> – Cofnod records within 2km of the onshore ornithology wintering and migratory birds study area</p> <p>Iceland gull <i>Larus glaucooides</i> – Cofnod records within 2km of the onshore ornithology wintering and migratory birds study area</p> <p>Lesser black-backed gull <i>Larus fuscus</i> – Cofnod records within 2km of the onshore ornithology wintering and migratory birds study area</p> <p>Great black-backed gull <i>Larus marinus</i> Cofnod records within 2km of the onshore ornithology wintering and migratory birds study area</p>

Habitat type	Description of habitat	Local birds typical of this habitat
		Short-eared owl <i>Asio flammeus</i> – Present in low numbers (Birds In Wales, 2018).
Arable	These are fertile and often intensively managed crop fields and provide suitable foraging habitat for many wintering birds.	<p>Whooper swan <i>Cygnus cygnus</i> – Regular visitor to the Dee estuary (Birds in Wales, 2018)</p> <p>Greylag goose <i>Anser anser</i> – Cofnod records within 2km of the onshore ornithology wintering and migratory birds study area</p> <p>White-fronted goose <i>Anser albifrons</i> – Records from Talacre and Bodfari 2017/18 (Birds in Wales, 2018)</p> <p>Brent goose <i>Branta bernicla</i></p> <p>Shelduck <i>Tadorna tadorna</i></p> <p>Hen harrier <i>Circus cyaneus</i> – Records from Dee and Conwy (Balmer, et al., 2013)</p> <p>Skylark <i>Aluda arvensis</i> – Cofnod records within 2km of the onshore ornithology wintering and migratory birds study area</p> <p>Meadow pipit <i>Anthus pratensis</i> – Cofnod records within 2km of the onshore ornithology wintering and migratory birds study area</p> <p>Mistle thrush <i>Turdus viscivorus</i> – Cofnod records within 2km of the onshore ornithology wintering and migratory birds study area</p> <p>Reed bunting <i>Emberiza schoeniclus</i> – Cofnod records within 2km of the onshore ornithology wintering and migratory birds study area</p>
Hedgerow	Both the arable and pasture fields are often bounded by hedgerows. They often consist of tree species such as hawthorn <i>Crataegus monogyna</i> , and holly <i>Ilex aquilinum</i> which provide winter berries. Many of the sedentary species found here in the summer will still be present in addition to more northerly and easterly migratory species.	<p>Redwing <i>Turdus iliacus</i> – Cofnod records within 2km of the onshore ornithology wintering and migratory birds study area</p> <p>Fieldfare <i>Turdus pilaris</i> – Cofnod records within 2km of the onshore ornithology wintering and migratory birds study area</p> <p>Wren <i>Troglodytes troglodytes</i> – Cofnod records within 2km of the onshore ornithology wintering and migratory birds study area</p> <p>Dunnock <i>Prunella modularis</i> – Cofnod records within 2km of the onshore ornithology wintering and migratory birds study area</p> <p>Tree sparrow <i>Passer montanus</i></p> <p>Yellowhammer <i>Emberiza citrinella</i> – Cofnod records within 2km of the onshore ornithology wintering and migratory birds study area</p>
Mixed and coniferous woodland	The main areas of mixed woodland often contain fragments of forestry plantation. Forestry often has a high density of trees per m <sup>2</sup> . Forest rides and clearings provide lighter areas with developed shrub and herb layers. Some birds are specialist feeders on conifers with others exploiting the heath like openings, due to the dense	<p>Goshawk <i>Accipiter gentilis</i> – Present in all Welsh counties (Birds In Wales, 2018)</p> <p>Wood pigeon <i>Columba palumbus</i></p> <p>Willow tit <i>Poecile montanus</i> – Wintering records exist within 20km of the onshore ornithology wintering and migratory birds study area (Balmer, et al., 2013). Cofnod records within 2km of the onshore ornithology wintering and migratory birds study area</p>

Habitat type	Description of habitat	Local birds typical of this habitat
	nature of the understory, birds which hunt in these habitats are forest specialists. Many of the species found here are sedentary.	Bullfinch <i>Pyrrhulla pyrrhulla</i> – Cofnod records within 2km of the onshore ornithology wintering and migratory birds study area Common crossbill <i>Loxia curvirostra</i> – Cofnod records within 2km of the onshore ornithology wintering and migratory birds study area
Deciduous woodland	In amongst the farmland mosaic there are also copses and small woods present. These are largely made up of deciduous tree species with the occasional evergreen such as holly. These typically have a more open canopy, often with a well-developed herb and shrub layer. The complex structure and diversity of food sources allows many species to exploit this habitat and seeds and berries can be present until late into the winter.	Red kite <i>Milvus milvus</i> – Cofnod records Sparrowhawk <i>Accipiter nisus</i> Kestrel <i>Falco tinnuculus</i> – Cofnod records within 2km of the onshore ornithology wintering and migratory birds study area Woodcock <i>Scolopax rusticola</i> – Cofnod records within 2km of the onshore ornithology wintering and migratory birds study area Tawny owl <i>Strix aluco</i> – Cofnod records within 2km of the onshore ornithology wintering and migratory birds study area Lesser spotted woodpecker <i>Dryobates minor</i> – Regional records exist for 2018 (Birds in Wales, 2018). Cofnod records within 2km of the onshore ornithology wintering and migratory birds study area. Wood lark <i>Lullula arborea</i> – Wintering population close to coast (Balmer, <i>et al.</i> , 2013) Song thrush <i>Turdus philomelos</i> – Cofnod records within 2km of the onshore ornithology wintering and migratory birds study area Rook <i>Corvus frugilegus</i> Hawfinch <i>Coccothraustes coccothraustes</i> – Records from seven regional sites in 2017/18 (Birds in Wales, 2018)
Open woodland/parkland	Parkland or open woodland is characterised by grassland with areas of scrub and spaced trees. Many woodland and hedgerow species will also utilise open parkland.	Stock dove <i>Calumba oenas</i> Marsh tit <i>Poecile palustris</i> – Cofnod records within 2km of the onshore ornithology wintering and migratory birds study area Starling <i>Sturnus vulgaris</i> – Cofnod records within 2km of the onshore ornithology wintering and migratory birds study area Greenfinch <i>Chloris chloris</i>
Scrub	Areas of scrub may be characterised by low densities of mature trees allowing a well-developed shrub layer to establish. This provides structure and food for wintering passerines.	Firecrest <i>Regulus ignicapilla</i> – Known wintering location along coast (Balmer, <i>et al.</i> , 2013). Cofnod records within 2km Linnet <i>Linaria cannabina</i> – Cofnod records within 2km of the onshore ornithology wintering and migratory birds study area Lesser redpoll <i>Acanthis cabaret</i>
Coastal dunes and upper beach	Where disturbance levels are low enough the upper shore provides high tide roosting opportunities for species which forage on the intertidal. Some species of	Shore lark <i>Eremophila alpestris</i> – Records within 20km of the onshore ornithology wintering and migratory birds study area (Balmer, <i>et al.</i> , 2013) Snow bunting <i>Plectrophenax nivalis</i> – Cofnod records within 2km of the onshore ornithology wintering and migratory birds study area

Habitat type	Description of habitat	Local birds typical of this habitat
	passerine also utilise the strand line for foraging purposes.	Twite <i>Linaria flavirostris</i> – Records from Conwy in 2017/18 (Birds in Wales, 2018)
Freshwater	There are ponds of varying sizes dotted along the onshore ornithology wintering and migratory birds study area along with ditches. Where common reed ( <i>Phragmites australis</i> ) is present this will provide winter cover for birds. Many areas that are dry in the summer may contain seasonal pools and flooded grassland which may suit some species of waterfowl.	Gadwall <i>Anas strepera</i> Mallard <i>Anas platyrhynchos</i> – Cofnod records within 2km of the onshore ornithology wintering and migratory birds study area Shoveler <i>Spatula clypeata</i> Teal – Cofnod records within 2km of the onshore ornithology wintering and migratory birds study area Wigeon Cormorant Little egret <i>Egretta garzetta</i> Moorhen <i>Gallinula chloropus</i> Black-headed gull <i>Chroicocephalus ridibundus</i> – Cofnod records within 2km of the onshore ornithology wintering and migratory birds study area Kingfisher <i>Alcedo atthis</i> – Cofnod records within 2km of the onshore ornithology wintering and migratory birds study area Grey wagtail <i>Motacilla cinerea</i> – Cofnod records within 2km of the onshore ornithology wintering and migratory birds study area Dipper <i>Cinclus cinclus</i> – Cofnod records within 2km of the onshore ornithology wintering and migratory birds study area
Buildings	There are numerous buildings along the onshore ornithology wintering and migratory birds study area. Buildings may be of different sizes with some species habitually roosting on roofs and chimneys of inhabited buildings, while others inhabit the interiors of derelict farm buildings and barns (barn owl).	Barn owl <i>Tyto alba</i> – Cofnod records within 2km of the onshore ornithology wintering and migratory birds study area House sparrow <i>Passer domesticus</i> – Cofnod records within 2km of the onshore ornithology wintering and migratory birds study area
Crags and cliffs	Although limited, there are a few crags situated along the cable corridor.	Black redstart <i>Phoenicurus ochruros</i> – Records from Kinmel Bay 2017/18 (Birds in Wales, 2018) Chough <i>Pyrrhocorax pyrrhocorax</i> – Know population on the Great Orme (Birds in Wales, 2018). Cofnod records within 2km of the onshore ornithology wintering and migratory birds study area

1.3.3.3 In addition to the species noted above, many species of coastal birds that forage on the intertidal habitats may have high tide roosts on wetlands, damp grassland, or marshes close to the coast. Species that may be present at these locations include: waders, including oystercatcher, grey plover, dunlin, redshank and turnstone *Arenaria interpres*.

- 1.3.3.4 These species are unlikely to travel far from the coastline to roost and will be picked up by the high tide roost checks. The findings of these high tide roosts checks will be reported in volume 7, annex: 24.2: Intertidal ornithology the Environmental Statement.
- 1.3.3.5 Despite extensive searching of the desktop sources, no documented high tide roosts were found within the onshore ornithology wintering and migratory birds study area.
- 1.3.3.6 The region of North Wales that the onshore ornithology wintering and migratory birds study area is within provides a wintering area for populations of woodlark and hawfinch. In addition, wintering areas are also present along the coastline for shore lark, firecrest, black redstart, twite and snow bunting.
- 1.3.3.7 There are also known nearby populations of protected sedentary species, such as common crossbill and chough.
- 1.3.3.8 Notable raptors that may be present within the onshore ornithology wintering and migratory birds study area include hen harrier, red kite, goshawk, peregrine, merlin, short-eared owl, and barn owl.

### 1.3.4 Local records results

- 1.3.4.1 Records of 51 species located within the onshore ornithology wintering and migratory birds study area that are protected or of conservation concern were supplied by Cofnod. Most of these species include those already identified in the target list. Exceptions to this include common scoter, and many of the wader species. However, upon further analysis these species have not been included in the target list.
- 1.3.4.2 Species with Cofnod records located within 2km of the onshore ornithology wintering and migratory birds study area, which have been screened out of the target list are presented in Table 1.5 below.

**Table 1.5: Species with Cofnod records within the onshore ornithology wintering and migratory birds study area screened out of the target list.**

Species	Reason for screening out of target list
Common scoter	Common scoter spend the winter offshore. Although they are often visible in the nearshore waters, they do not come to land during this period and can therefore be considered as unlikely to be present within the onshore ornithology wintering and migratory birds study area.
Oystercatcher	Many of the wader records are from the coastline. For species that utilise the intertidal area, any high tide roosts for these species are likely to be in fields and wetland habitats adjacent to the coast. The findings of these high tide roosts checks will be reported in volume 7, annex: 24.2: Intertidal ornithology the Environmental Statement.
Ringed plover	
Dunlin	
Sanderling	
Turnstone	
Redshank	

## 1.4 Summary

- 1.4.1.1 This report presents the findings of a detailed desk top study, which was undertaken to identify sensitive wintering and migratory ornithological receptors located within the onshore ornithology wintering and migratory birds study area.
- 1.4.1.2 The desk stop study was informed using the following stages: broad scale habitat mapping; assembling a list of species known to use these habitats; referencing this list with known species ranges; screening out common and widespread species; and double checking the list with 2018 county lists for regularly occurring species.
- 1.4.1.3 A list of target species has been compiled and were used to inform the winter 2022 to 2023 surveys. The findings of walkover surveys undertaken between November 2022 and February 2023 will be provided within volume 7, annex: 24.1: Onshore ornithology – wintering and migratory birds of the Environmental Statement.
- 1.4.1.4 In addition, LERC information has been sought about BOCC and protected species which have been recorded within the onshore ornithology wintering and migratory birds study area.
- 1.4.1.5 Many of the terrestrial ornithological sensitivities such as wood lark, hawfinch, and red kite will utilise the wooded areas, whereas others such as shore lark, twite, and merlin will utilise more coastal habitats. Relatively low proportions of these habitats are available in the onshore ornithology wintering and migratory study area.

## 1.5 References

Balmer, D., Gillings, S., Caffrey, B., Swann, B., Downie, I., Fuller, R., (2013). Bird Atlas 2007-11. British Trust for Ornithology.

Cutts, N., Hemingway, K. and Spencer, J. (2013) Waterbird Disturbance Mitigation Toolkit; University of Hull. Available from: TIDE toolbox - TIDE tools (tide-toolbox.eu).

Gilbert, G., Gibbons, D.W., & Evans, J., (1998). Bird Monitoring Methods: A Manual of Techniques for Key UK Species Pelagic Publishing.

Goodship, N.M. and Furness, R.W. (2022) Distances Review: An updated literature review of disturbance distances of selected bird species. NatureScot Research Report 1283.

Hötcker, H., Thomsen, K.-M. & H. Jeromin (2006): Impacts on biodiversity of exploitation of renewable energy sources: the example of birds and bats - facts, gaps in knowledge, demands for further research, and ornithological guidelines for the development of renewable energy exploitation. Michael-Otto-Institut im NABU, Bergenhusen.

Johnstone, I.G., Hughes, J., Balmer, D., Brenchley, A., Facey, R.J., Lindley, P.J., Noble, D.G., Taylor, R., (2022), Birds of Conservation Concern Wales 4: the population status of birds in Wales, *Milvus*, Vol 2:1

Mona Offshore Wind Ltd (2022) Mona Offshore Wind Project EIA Scoping Report. Available: <https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010137/EN010137-000011-EN010137%20-%20Scoping%20Report.pdf>. Accessed: December 2022

Ruddock, M., Whitfield, D.P., (2007), A review of disturbance distances in selected bird species. Scottish Natural Heritage.

## MONA OFFSHORE WIND PROJECT

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Scottish Natural Heritage, (2016), Assessing Connectivity with Special Protection Areas. Guidance Note.

Stanbury, A., Eaton, M., Aebischer, N., Balmer, D., Brown, A., Douse, A., Lindley, P., McCulloch, N., Noble, D., and Win I. 2021. The status of our bird populations: the fifth Birds of Conservation Concern in the United Kingdom, Channel Islands and Isle of Man and second IUCN Red List assessment of extinction risk for Great Britain. *British Birds* 114: 723-747.

The Welsh Ornithological Society, (2018), *Birds in Wales*, Edited by Hughes, J. Wotton, S.R., Carter, I., Cross, A.V., Etheridge, B., Snell, N., Duffy, K., Thorpe, R., and Gregory R.D. (2002) Breeding status of the Red Kite *Milvus milvus* in Britain in 2000. *Bird Study*, Vol. 49, pp. 182-193