

Representations - Statutory Consultees

DAERA

MD-00012385/ MD-00012386 - MachairWind Limited – MachairWind Offshore Wind Farm – Windfarm Development Area - EIA Section 36 consent and Marine Licence Applications Consultation Started

Inland Fisheries

Inland Fisheries have no specific comments to make on this EIA Section 36 Consent and Marine Licence Application consultation and recognise that there is no direct impact on DAERA Inland Fisheries interests , however we would make the following comments on offshore renewables in general;

Available evidence suggests that offshore renewable energy developments may affect marine ecosystems through underwater noise, electromagnetic fields (EMFs), habitat alteration, increased vessel activity, and changes to predator–prey interactions. For Atlantic salmon, the greatest potential impacts are associated with the construction phase, particularly pile-driving noise, which may disrupt behaviour, migration, and orientation. Uncertainty also remains regarding the extent to which EMFs from subsea cables may affect salmon navigation and the cumulative effects of multiple developments on migration routes. Turbine foundations can alter habitats and may attract predators, potentially increasing predation risk for migrating salmon, although evidence for these effects remains limited. Overall, a precautionary approach is warranted, including careful site selection, effective mitigation measures, monitoring, and adaptive management to minimise potential risks to Atlantic salmon and the wider marine environment.

Marine Conservation Branch

Marine Conservation and Reporting Branch has reviewed the Report to Inform Appropriate Assessment (RIAA) documentation relating to the MachairWind Offshore Wind Farm and is content with the findings of the assessment.

We agree with the conclusions presented regarding the potential impacts on MPA features and are satisfied that the assessment has appropriately considered the implications for site integrity. Based on the information provided, we have no further comments to make at this stage.

Marine Licensing

Marine Licensing Branch have no comment to make at this stage. As the Regulatory Authority we will only comment on individual projects and on a case-by-case basis.

Historic Environment Scotland



HISTORIC
ENVIRONMENT
SCOTLAND

ÀRAINNEACHD
EACHDRAIDHEIL
ALBA

By email to:

MD.MarineRenewables@gov.scot

Marine Directorate

5 Atlantic Quay

150 Broomielaw

Glasgow,

G2 8LU

Longmore House

Salisbury Place

Edinburgh

EH9 1SH

Enquiry Line: 0131 668 8716

HMConsultations@hes.scot

Our case ID: 300071933

Your ref: MD-00012385 / MD-00012386

11 September 2026

Dear Marine Directorate

The Electricity Works (Environmental Impact Assessment) (Scotland)
Regulations 2017

The Electricity (Applications for Consent) Regulations 1990

The Marine Works (Environmental Impact Assessment) (Scotland)
Regulations 2017

MachairWind Offshore Development - Section 36 consent

Thank you for consulting us on this Environmental Impact Assessment (EIA) Report and application for consent. We received the consultation on 25 June 2026.

We have reviewed the report and considered the proposed development in terms of our historic environment interests. This covers cultural World Heritage Sites, scheduled monuments and their settings, category A-listed buildings and their settings, inventory gardens and designed landscapes, inventory battlefields and Historic Marine Protected Areas.

Your cultural heritage advisors will also be able to offer advice on impacts on the historic environment. This may include topics covered by [our advice-giving role](#), and other topics such as unscheduled archaeology, category B and C listed buildings, and conservation areas. From 1 January 2025, we no longer provide advice on undesignated underwater cultural heritage. It is therefore the responsibility of the competent authority to ensure that it has access to sufficient expertise to assess the EIA Report in accordance with the relevant regulations.

Our Advice

We **object** because the proposed development, as applied for under the Section 36 application and associated marine licence applications, would have a significant adverse impact on the settings of St Mary's Abbey, Iona, monastic settlement ([SM12968](#)), and Iona Abbey ([LB12310](#)).

Historic Environment Scotland – Longmore House, Salisbury Place, Edinburgh, EH9 1SH

Scottish Charity No. **SC045925**

VAT No. **GB 221 8680 15**



These effects would be contrary to policy GEN 6 of [Scotland's National Marine Plan](#) (NMP), which requires the settings of designated heritage assets to be appropriately protected.

The proposed development would result in a significant adverse impact on the integrity of the setting of St Mary's Abbey, Iona, Monastic Settlement (SM12968). As such, the development would fail to meet Policy 7(h)(ii) of NPF4, which requires significant adverse impacts on the integrity of the setting of scheduled monuments to be avoided.

In relation to Iona Abbey (LB12310), the development would fail to meet the requirements of Policy 7(c) of NPF4, which states that development proposals affecting the setting of a listed building should preserve its character and special architectural or historic interest.

Consequently, we do not consider that the applications demonstrate compliance with HEP1, HEP2 or HEP4 of the Historic Environment Policy for Scotland (HEPS).

Annex A addresses the application and Environmental Impact Assessment (EIA) Report, setting out relevant considerations, including our previous advice on the proposed development, the policy context, and our concerns regarding the methodology and conclusions presented in the Planning Statement. It focuses on the aspects we consider most significant and which have the greatest influence on both the application and the outcomes of the asset-specific assessments.

Annex B sets out our detailed objection in relation to St Mary's Abbey, Iona, monastic settlement (SM12968), and Iona Abbey (LB12310). It also includes comments on other designated assets within our remit that do not form part of our objection, but for which the applicant has identified likely significant EIA effects. These assets are:

- Oronsay Priory and Cross (SM287)
- Beinn a' Chaisteil, promontory fort and associated remains, Islay (SM13213)
- Dun Bheolain, fort, Islay (SM13214)
- Dubh Artach Lighthouse (LB12320)

Should Scottish Ministers determine that the identified significant adverse effects on the settings of St Mary's Abbey, Iona, monastic settlement (SM12968), and Iona Abbey (LB12310) are acceptable and grant consent for the Section 36 application and associated marine licences, we would require consultation on the Design Specification and Layout Plan (DSLP) (including Design Statement). Whilst this would not mitigate the significant adverse effects identified, it would provide assurance that the final turbine layout and design do not result in greater impacts on these assets than those assessed in the EIA Report.

Further Information

Decisions that affect the historic environment should take the [Historic Environment Policy for Scotland](#) (HEPS) into account as a material consideration. HEPS is supported by our [Managing Change guidance series](#).

We hope this is helpful. If you would like to submit more information about this or any other proposed development to us for comment, please send it to our consultation mailbox, hmconsultations@hes.scot. If you have questions about this response, please contact

[Redacted] at [Redacted]

Historic Environment Scotland – Longmore House, Salisbury Place, Edinburgh, EH9 1SH
Scottish Charity No. **SC045925**

VAT No. **GB 221 8680 15**



HISTORIC
ENVIRONMENT
SCOTLAND

ÀRAINNEACHD
EACHDRAIDHEIL
ALBA

Yours sincerely

Historic Environment Scotland



ANNEX A

The Proposed Development

We understand that the proposed development comprises three development areas:

- the Wind Farm Development Area (WDA);
- the Offshore Export Cable Corridor (ECC); and
- the Onshore Transmission Development Area (OnTDA).

Wind Farm Development Area (WDA)

This Section 36 application, EIA Report and marine licences relate to the Wind Farm Development Area (WDA), which covers 448 km² and is located off the west coast of Scotland, 12.4 km west of Colonsay and 21 km south-west of Iona.

Based on the wind turbine generators (WTGs) likely to be available when construction starts, the project design envelope includes either 91 larger WTGs, with a blade-tip height of 335 m, or 144 smaller WTGs, with a blade-tip height of 280 m. The associated offshore infrastructure would include offshore substation platforms, fixed foundations with scour protection, and various cable types, where these fall within the WDA application boundary. The EIA Report uses a Rochdale Envelope approach to assess potential environmental impacts.

Offshore Export Cable Corridor (ECC) and Onshore Transmission Development Area (OnTDA)

We understand that the WDA will connect to a new High Voltage Direct Current (HVDC) switching station that the Transmission System Operator will build near Girvan, and that separate consent and licence applications will be submitted for the Offshore Export Cable Corridor (ECC) and the Onshore Transmission Development Area (OnTDA).

We welcome the fact that the EIA Report explains the assumptions made for the Offshore ECC and OnTDA, including their expected components, so that potential interactions and combined effects can be assessed with the WDA.

Our Previous Advice

We have engaged extensively on this proposed development over several years. The summary below sets out our consultation responses at recent stages of the process, focusing on our key advice.

Scoping (November 2024)

At scoping, the proposed development comprised up to 147 turbines (340 m). We identified the potential for significant effects on Dubh Artach Lighthouse (LB12320), noting that the proposed turbines would be readily visible in views from and towards the lighthouse and could significantly affect how its setting contributes to the understanding, appreciation and experience of its cultural significance.

We also highlighted the need for the EIA assessment to give particular consideration to monuments with strong visual connections to the sea, where that relationship contributes



substantively to their cultural significance, as well as to sites with monastic or early Christian associations that may be especially susceptible to effects on their setting. We provided detailed comments on the following assets, but emphasised this was not an exhaustive list:

- Beinn a' Chaisteil, promontory fort, Islay (SM13213)
- Nave Island, monastic site and Viking remains (SM3233)
- Oronsay Priory and Cross (SM287)
- Eileach-an-Naoimh, monastery, Garvellachs (SM90138)
- St Mary's Abbey, Iona, monastic settlement (SM12968)
- St Patrick's Chapel, Tiree (SM6905)

Regarding the assessment methodology, we recommended that the applicant refers to the [Environmental Impact Assessment \(EIA\) Handbook](#) (HES & SNH, 2018) for best practice advice on assessing cultural heritage impacts.

Pre-application (February - April 2026)

In our February and April 2026 pre-application advice, we acknowledged the proposed Rochdale Envelope approach and the updated range of scheme parameters of 91 to 144 turbines between 280 m and 335 m in height.

A key concern was that the visualisations focused on the lower 91-turbine scenario without a clear explanation of why this represented the worst case for cultural heritage receptors. We advised that primary heritage visualisations should depict a clearly justified worst-case layout and height combination, supported by secondary wirelines and clearer ZTV information showing turbine numbers.

We reiterated that setting should be assessed holistically, considering how surroundings contribute to the understanding, appreciation and experience of heritage assets, and that the cultural heritage assessment would require visualisations specifically designed to assess setting impacts, rather than relying solely on Seascape, Landscape and Visual Impact Assessment (SLVIA) material.

For Iona Abbey (LB12310) and the associated monastic settlement (SM12968), we advised that the development had the potential to affect the ability to understand, appreciate and experience these designated assets. We recommended additional photomontages in our letter dated 20 February 2026 and subsequently requested more detailed visualisations by email on 18 March 2026.

We also advised that further visualisations and assessment were required for Oronsay Priory and Cross (SM287), and for other assets where ZTVs and wirelines indicated the potential for impacts on setting, including Beinn a' Chaisteil promontory fort (SM13213), Nave Island monastic site and Viking remains (SM3233), and Dun Bheolain fort (SM13214).

Policy Context for the Historic Environment

National Marine Plan (NMP)

We have assessed the impacts of the proposal on heritage assets within our remit against the relevant policies set out in [Scotland's National Marine Plan](#) (Scottish Government,

Historic Environment Scotland – Longmore House, Salisbury Place, Edinburgh, EH9 1SH

Scottish Charity No. **SC045925**

VAT No. **GB 221 8680 15**

2015). The principal policy relating to the historic environment is **GEN 6: Historic Environment**, which states:

“Development and use of the marine environment should protect and, where appropriate, enhance heritage assets in a manner proportionate to their significance.”

In addition, the following supporting policy provisions are relevant to our assessment:

- **Paragraph 4.22:** Marine planning should help to ensure that future marine activities and developments can be carried out in a way that respects the marine historic environment and the setting of important coastal heritage assets. It can also help to increase the social and economic contribution of the heritage assets, for example by encouraging opportunities for public access.
- **Paragraph 4.23:** To achieve this, marine planners and decision makers should consider implications and opportunities for the historic environment taking into account the potential impacts of development and use on:
 - Designated heritage assets – representing sites of national or international significance for which statutory requirements apply. Designated assets should be protected in situ within an appropriate setting. Substantial loss or harm to designated assets should be exceptional and should only be permitted if this is necessary to deliver social, economic or environmental benefits that outweigh the harm or loss.
- **Paragraph 4.24:** Proposals for development and use that may affect the historic environment should provide information on the significance of known heritage assets and the potential for new discoveries to arise. They should demonstrate how any adverse impacts will be avoided, or, if not possible, minimised and mitigated. Where it is not possible to minimise or mitigate impacts, the benefits of proceeding with the proposal should be clearly set out.
- **Paragraph 4.25:** Where the case for substantial change to a heritage asset is accepted, marine decision-making authorities should require applicants to undertake suitable mitigating actions to record and advance understanding of the significance of the heritage asset before it is lost, in a manner proportionate to that significance. The resulting evidence should be made publicly accessible and copies of reports archived with the Royal Commission on the Ancient and Historical Monuments of Scotland and the adjacent Local Authority archaeology service.

Paragraph 4.23 cites [Managing Change in the Historic Environment: Setting](#) (HES, 2020) as relevant guidance on setting.

National Planning Framework 4 (NPF4)

We have assessed the impacts of the proposal on heritage assets within our remit against national policies as set out in the [National Planning Framework 4](#) (Scottish Government, 2023). Part 3 Annex A clarifies that a developer/decision maker should read NPF4 as a whole.

The policies outlined below are not exhaustive; however, they represent those most relevant to informing our position.

Historic Environment Scotland – Longmore House, Salisbury Place, Edinburgh, EH9 1SH

Scottish Charity No. **SC045925**

VAT No. **GB 221 8680 15**



The first is **Policy 7(a)**, which reads:

Development proposals with a potentially significant impact on historic assets or places will be accompanied by an assessment which is based on an understanding of the cultural significance of the historic asset and/or place. The assessment should identify the likely visual or physical impact of any proposals for change, including cumulative effects and provide a sound basis for managing the impacts of change. Proposals should also be informed by national policy and guidance on managing change in the historic environment, and information held within Historic Environment Records.

The second is **Policy 7(c)**, which reads:

Development proposals for the reuse, alteration or extension of a listed building will only be supported where they will preserve its character, special architectural or historic interest and setting. Development proposals affecting the setting of a listed building should preserve its character, and its special architectural or historic interest.

The third is **Policy 7(h)**, which reads:

Development proposals affecting scheduled monuments will only be supported where:

- i. direct impacts on the scheduled monument are avoided;
- ii. significant adverse impacts on the integrity of the setting of a scheduled monument are avoided; or
- iii. exceptional circumstances have been demonstrated to justify the impact on a scheduled monument and its setting and impacts on the monument or its setting have been minimised.

Lastly, **Policy 11 (e)** reads:

In addition, project design and mitigation will demonstrate how the following impacts are addressed ... vii. impacts on historic environment.

[Sectoral Marine Plan for Offshore Wind Energy \(SMP\)](#)

The [Sectoral Marine Plan for Offshore Wind Energy](#) (Scottish Government, 2020) aims to identify sustainable plan options for the future development of commercial-scale offshore wind energy in Scotland. In 2020, we were consulted on the draft plan and its accompanying Strategic Environmental Assessment (SEA) report. The proposed development lies within the option agreement (OA) area identified in the plan as **W1**. In our response, we noted the potential for effects on the settings of terrestrial heritage assets and advised that these should be considered at the project level:

“Given the proximity of sections of this OA to the coast, particular consideration should be given to the potential for adverse effects on the setting of terrestrial historic environment assets at any project-level stage.”

“As with our comments submitted in relation to SW1, the proximity of sections of this DPO to terrestrial historic environment assets, such as forts and religious settlements on both Oronsay and Islay, may mean that wind turbines have the potential to affect the settings of

Historic Environment Scotland – Longmore House, Salisbury Place, Edinburgh, EH9 1SH

Scottish Charity No. **SC045925**

VAT No. **GB 221 8680 15**



such sites. The mitigation outlined for W1 should therefore ensure that these matters are considered at the project level, alongside the mitigation identified in relation to works within the DPO and the potential coastal effects of associated infrastructure.”

The Sectoral Marine Plan was reassessed in 2025 following an increase in the potential generating capacity of the plan options. In our response, we largely reiterated our previous advice, highlighting the potential for significant adverse effects on the settings of terrestrial heritage assets and welcoming the updated assessment’s recognition of this potential within area W1.

While the Sectoral Marine Plan informs decision-making on licence and consent applications, it does not pre-determine outcomes. It is one material consideration among many, and all developments within an OA area remain subject to the standard assessment and consenting procedures set out in the National Marine Plan (NMP).

Historic Environment Policy for Scotland (HEPS)

We have considered the proposals in light of the policies within the [Historic Environment Policy for Scotland](#) (HES, 2019), which is a material consideration for decisions that affect the historic environment. We consider the key policies in this case are:

- **HEP1:** Decisions affecting any part of the historic environment should be informed by an inclusive understanding of its breadth of cultural significance.
- **HEP2:** Decisions affecting the historic environment should ensure that its understanding and enjoyment as well as its benefits are secured for present and future generations.
- **HEP4:** Changes to specific assets and their context should be managed in a way that protects the historic environment. Opportunities for enhancement should be identified where appropriate. If detrimental impact on the historic environment is unavoidable, it should be minimised. Steps should be taken to demonstrate that alternatives have been explored, and mitigation measures should be put in place.

Managing Change Guidance

We have also referred to our [Managing Change in the Historic Environment](#) guidance series, which provides best practice advice for decision makers on applying the policies above. The most relevant document in the series in this case is [Managing Change in the Historic Environment: Setting](#) (HES, 2020).

The Environmental Impact Assessment Report

We consider that the Environmental Impact Assessment (EIA) Report contains sufficient information for us to reach a view on the applications for consent. Our comments below relate to the assessment methodology, mitigation, and the application of relevant policy.

Assessment Methodology

We had the opportunity to review the proposed methodology for the cultural heritage assessment in October 2024 and responded in our letter dated 27 November 2024. In that response, we recommended that the applicant refer to the [EIA Handbook](#) for best practice guidance on the assessment of cultural heritage impacts.

We reiterated this position during our meeting with the applicant on 13 June 2025, when we stated that we expected the assessment to follow the approach set out in the Handbook and that a clear written justification should be provided where the EIA Report departed from that approach. This is reflected in the minute the applicant shared with us on 31 July 2025.

The assessment methodology used by the applicant differs from the EIA Handbook, and it contains statements that we disagree with. Rather than addressing each of these points individually, our comments below focus on the aspects we consider most significant and which have the greatest influence on the application of the assessment methodology and the outcomes of the asset-specific assessments.

Assessment Matrix

The methodology chapter (Chapter 5) contains a standard assessment matrix for determining likely significant effects, which has been adapted for use in the cultural heritage chapter (Chapter 14). This includes the magnitude of impact table, where Table 5.6 in Chapter 5 has been adapted as Table 14.15 in Chapter 14 (page 88).

The definition of a medium adverse magnitude of impact in Table 5.6 refers to “*considerable, permanent/irreversible changes*”. Although this differs from the definition provided in the EIA Handbook, we consider it proportionate to the higher and lower magnitude categories. However, we do not consider the revised definition of a medium adverse magnitude of impact in Table 14.15 to be similarly proportionate, which creates issues in the application of the assessment methodology. Within Table 14.15, a medium adverse magnitude of impact is defined as:

“Elements of the asset’s fabric and/or setting which contribute to its significance are affected, but to a more limited extent, resulting in an appreciable, but partial, loss of the asset’s cultural significance.”

By contrast, the equivalent moderate adverse magnitude category in Appendix 1, Figure 1 of the EIA Handbook (page 184) is described as:

“Changes to the elements of the fabric or setting of the heritage asset that contribute to its cultural significance such that this is substantially altered.”

We consider that the applicant’s definition of a medium adverse impact represents a lower level of effect than the equivalent moderate category in the EIA Handbook. We also consider that it is disproportionately low in comparison with the high adverse category in Table 14.15, which refers to cultural significance being “*lost or severely compromised*”. As a result, the assessment methodology may understate the magnitude of impacts on the significance of heritage assets arising from changes to their setting.

Setting

We previously advised that the assessment of impacts on the setting of designated heritage assets should follow the approach in our [Managing Change: Setting](#) guidance. This comprises three stages:

- **Stage 1:** identify the historic assets that might be affected by the proposed development

Historic Environment Scotland – Longmore House, Salisbury Place, Edinburgh, EH9 1SH

Scottish Charity No. **SC045925**

VAT No. **GB 221 8680 15**



- **Stage 2:** define and analyse the setting by establishing how the surroundings contribute to the ways in which the historic asset or place is understood, appreciated and experienced
- **Stage 3:** evaluate the potential impact of the proposed changes on the setting, and the extent to which any negative impacts can be mitigated

Whilst Appendix 14.3 states that it follows this guidance and recognises setting as “*the way the surroundings of a historic asset or place contribute to how it is understood, appreciated and experienced*” (Page 10), these three factors of setting are not consistently referenced in either the “Present Setting” or “Change to Setting” sections of the assessments. Instead, the assessments frequently describe baseline conditions or refer to visibility without further explanation.

We would expect an assessment based on the approach set out in our Managing Change: Setting guidance to clearly follow the three stages and explain impacts in terms of the three factors of setting. Some assessments refer solely, or predominantly, to understanding in their discussions of the existing setting and changes to that setting. As setting comprises three distinct but related factors, it is insufficient to consider only one of these aspects (for example, understanding) where appreciation and/or experience may also be affected. All three factors are equally important to the setting and cultural significance of a designated asset. Equal weight should therefore be attached to each, and none should be given greater importance over another.

Overall, we consider that Appendix 14.3 does not consistently or effectively follow the staged approach set out in our Setting guidance, particularly in relation to Stages 2 and 3.

We understand that an initial screening assessment was undertaken, corresponding to Stage 1 of the assessment process. However, this assessment does not appear to have been included as an annex to Appendix 14.3, and we are therefore unable to comment on its application of the guidance.

As the assessments do not consistently follow the methodology set out in the Managing Change: Setting guidance, we consider that some of the conclusions regarding impacts on setting are unclear and insufficiently substantiated. We explain below where we disagree with the conclusions reached in relation to specific assets, focusing on those we consider most likely to be affected by the proposed development.

We wish to reiterate that whether or not a site is visited does not change its inherent value or its sensitivity to alterations in its setting. An asset has a setting regardless of whether it is visited, and sites do not need to be visually prominent to have a setting, as explained in the Managing Change: Setting guidance. The degree of preservation is not relevant to how setting contributes to the cultural significance of an asset. Designations, such as those for scheduled monuments, may apply to partial remains that are of national importance (see [our Designation Policy and Selection Guidance](#)).

Mitigation

The EIA Handbook explains that “*one of the main purposes of EIA is to ensure that potentially significant environmental effects of proposed projects are avoided or reduced*”

Historic Environment Scotland – Longmore House, Salisbury Place, Edinburgh, EH9 1SH
Scottish Charity No. **SC045925**

VAT No. **GB 221 8680 15**

(page 77). Mitigation plays a key role in achieving this. For cultural heritage, mitigation by avoidance, such as through project design, is the preferred approach within the mitigation hierarchy, followed by mitigation through reduction (page 185).

Despite this, the cultural heritage chapter (Chapter 14) proposes no mitigation measures relating to setting impacts. This includes the embedded mitigation table (Table 14.13, page 84) and the stand-alone setting assessment (Appendix 14.3).

Cultural heritage is briefly considered in the site selection and alternatives chapter (Chapter 4). A 2 nm buffer around Dubh Artach Lighthouse (LB12320) is identified as mitigation for setting impacts in Table 4.5. However, this buffer appears to have been included in response to the Northern Lighthouse Board's request for a 2 nm exclusion zone to accommodate helicopter operations and maintenance vessel access (page 33). The chapter does not explain how the buffer would reduce setting impacts on the category A-listed lighthouse.

Table 4.5 (Cultural Heritage row, impacts on setting of heritage assets) also refers to refinement of the WDA to the north, east and south as mitigation for setting impacts, while incorrectly referring to "SLVIA effects" in one of the columns. Setting is the way the surroundings of a historic asset or place contribute to how it is understood, appreciated and experienced. Assessment of setting is distinct from SLVIA, and a reduction in SLVIA effects cannot be assumed to result in a corresponding reduction in setting impacts. This also applies to other instances in the chapter where cultural heritage is discussed in relation to SLVIA, for example on page 37.

The methodology chapter (Chapter 5) states that where significant effects are identified, additional mitigation measures will be considered where appropriate to avoid, prevent, reduce or offset them (page 22). Despite the cultural heritage assessment predicting significant effects for multiple assets, there is no discussion of mitigation through reduction. While we recognise that opportunities may be limited for a proposal of this scale, particularly where avoidance through design has not been achieved, we would still expect the EIA Report to address this and explain why further mitigation is not proposed. Accordingly, there are no measures relating to setting included in the WDA Mitigation and Commitments Register (Appendix 5).

We consider the absence of any substantive discussion of mitigation for adverse setting impacts to be a significant omission in the EIA assessment, and that the proposed development, as applied for under the Section 36 application and associated marine licence applications, fails to demonstrate compliance with the mitigation requirements of Policy GEN 6 of the National Marine Plan (NMP), Policy 11 (e) vii of NPF4 and HEP4 of the Historic Environment Policy for Scotland (HEPS). The implications of this for our position on the Planning Statement's conclusions regarding design and mitigation are discussed below.

Scottish Ministers may wish to have regard to schedule 9, paragraph 3(2)(a) of the Electricity Act 1989 as part of their decision making on this proposed development (the desirability of protecting sites, buildings and objects of architectural, historic or archaeological interest).



Design Envelope

Chapter 14 of the EIA Report states that the 91-turbine scenario would normally represent the worst case, as the taller turbines would be more prominent in views. However, it also acknowledges that the denser 144-turbine layout could result in greater impacts in some cases because of turbine stacking (Table 11.5, page 64). It explains that the worst-case layout shown is a “dense edge” layout, with turbines positioned towards the edges of the developable area. This is intended to maximise both the lateral spread of turbines and the potential for stacking, with the worst case considered for each receptor/asset. However, we consider that a layout which does not extend to the edge of the developable area could, in some views, increase the potential for turbine stacking if turbines are positioned more closely together.

Appendix 14.3 briefly addresses whether the upper or lower design parameters are likely to represent the worst-case scenario for each setting assessment. All assessments predict little or no difference in the magnitude of impact between the two scenarios, and several do not clearly identify a worst-case scenario. For example, the assessment of St Mary’s Abbey, Iona, monastic settlement (SM12968) states:

“In the case of this asset, identifying a worst case is very difficult given the distance from the array and the large number and dynamic nature of the views experienced as the viewer moves through the asset group. At the separation involved, any difference in magnitude of effect between the indicative 91 WTG and 144 WTG layouts is limited, but the increased scale and prominence of the larger WTGs, is likely to present the differentiating factor, albeit balanced by the denser layout required for the smaller WTGs” (page 88).

Although the larger-turbine (91 WTG) layout is described as the likely differentiating factor, this is qualified by the statement that the effects are balanced by the denser 144 turbine layout. As a result, the reader is left to interpret which layout is considered the worst case rather than being provided with a clear conclusion.

We consider that several of the setting assessments do not clearly identify which design parameters are likely to give rise to the worst-case scenario. However, the inclusion of wirelines for both scenarios is helpful in illustrating the range of potential impacts and provides sufficient visual information to support our assessment of non-compliance with Policy GEN 6 of the National Marine Plan (NMP) and Policy 7 of National Planning Framework 4 (NPF4). Where relevant, we address individual predictions in our asset-specific comments below.

Post-consent Design Development

Post-consent design development is addressed in Appendix 15, Design Strategy. This explains that the final design for “the Project”, including all development areas and associated infrastructure, will be agreed with relevant stakeholders before the relevant consent conditions are discharged. The stated purpose is to ensure that *“the effects of the final scheme will never be greater than those of the [realistic worst-case scenarios] RWCS assessed for EIA purposes”* (page 14).

This process will include the production of a Design Specification and Layout Plan (DSLPL), confirming the location and dimensions of all turbines and the production of a Design

Historic Environment Scotland – Longmore House, Salisbury Place, Edinburgh, EH9 1SH
Scottish Charity No. **SC045925**

VAT No. **GB 221 8680 15**

Statement. The DSLP will be informed by the relevant design objectives set out in Table 3.1 (page 10). Section 2.4.2 of the Planning Statement also proposes a condition requiring this process (page 10).

Appendix 15 refers specifically to reducing impacts on “nationally important landscapes”. Both Appendix 15 and the Planning Statement also refer to consulting NatureScot as the design develops. However, it is unclear whether, and how, post-consent design development will take cultural heritage into account, or whether Historic Environment Scotland will be consulted. Given the likely significant effects predicted for multiple assets within our statutory remit, we would expect both cultural heritage considerations and consultation with Historic Environment Scotland to form part of this process.

As noted above, we consider that several of the setting assessments presented in Appendix 14.3 do not clearly identify which design parameters would give rise to the worst-case scenario. Despite this, the information provided within the EIA Report is sufficient for us to conclude that the proposed development would result in significant adverse effects on the settings of designated heritage assets and would therefore fail to accord with Policy GEN 6 of the National Marine Plan (NMP) and Policy 7 of National Planning Framework 4 (NPF4).

Should Scottish Ministers determine that the identified significant adverse effects on the settings of St Mary’s Abbey, Iona, monastic settlement (SM12968), and Iona Abbey (LB12310) are acceptable and grant consent for the Section 36 application and associated marine licences, we would require consultation on the Design Specification and Layout Plan (DSLP). Whilst this would not mitigate the significant adverse effects identified, it would provide assurance that the final turbine layout and design do not result in greater impacts on these assets than those assessed in the EIA Report.

Planning Statement

Section 5 of the Planning Statement provides the legislative and policy context for the proposed development, including [Scotland’s National Marine Plan](#) (NMP), National [Planning Framework 4](#) (NPF4) (Scottish Government, 2023), and other relevant policies and statements.

It explains that Chapter 11 of the NMP contains objectives and policies relating to offshore wind and marine renewables. However, we note that Chapter 11 of the NMP states that “*objectives and policies for this sector should be read subject to those set out in Annex B and Chapter 4 of this Plan*”. Chapter 4 includes **GEN 6: Historic Environment**, which is not listed in Table 5.1: *NMP General Planning Principles Relevant to the Consenting Applications*, within the EIA Planning Statement. Similarly, Annex 3 of NPF4 makes clear that its policies should be read as a whole.

Our comments below focus on the section of the Planning Statement that is directly relevant to cultural heritage (Section 6.2.5). We note that the [Historic Environment Policy for Scotland](#) (HEPS) is not discussed in the Planning Statement. Decisions affecting the historic environment should take HEPS into account as a material consideration. We would therefore have expected the Planning Statement to address how the predicted effects align with this policy.



Design and Mitigation

According to the Planning Statement, *“the project’s design evolution to date and embedded mitigation measures have reduced the effects of the project on designated assets as far as possible at this stage”* (page 55). As discussed above, the EIA Report does not appear to identify, discuss, or propose any embedded mitigation measures to address significant effects on setting.

The statement references embedded mitigation measure M-50 in relation to changes to the setting of heritage assets. However, M-50 in Table 14.13 of the cultural heritage chapter (Chapter 14) refers to “reconstruction ROV or diver surveys”. There does not appear to be any setting-specific embedded mitigation included within Table 14.13 of Chapter 14.

We therefore cannot agree with the statement that the project’s design evolution and embedded mitigation measures have reduced the effects of the project on designated assets as far as possible at this stage. In the absence of any clearly identified setting-specific mitigation measures, it is not evident how significant effects on the setting of heritage assets have been avoided or minimised through the design process.

National Marine Plan (NMP)

The Planning Statement interprets Policy GEN 6 to mean that *“the policy requirement is ... to avoid substantial loss or harm”* to designated heritage assets (page 55). This is based on the part of the policy that allows loss or harm in exceptional circumstances where it is necessary to deliver benefits unrelated to cultural heritage. It is an incomplete reading of the policy. We consider that, for the purposes of assessing the proposed development’s compliance with cultural heritage policy in the National Marine Plan, regard should also have been given to the requirement that *“designated assets should be protected in situ within an appropriate setting”*. In our view, the provisions relating to whether - having identified failure to satisfy the policy requirement regarding protection in situ within an appropriate setting - substantial loss or harm should be accepted in exceptional circumstances, is primarily a matter for the decision-maker.

The Planning Statement goes on to assert that *“harm to heritage assets is a policy concept that has been little used in Scotland but has been the subject of extensive consideration in England, and there is a body of guidance and case law that provides useful context for its discussion and makes it clear that substantial harm presents a high bar”*.

The first part of this statement is unsupported. It is also unclear which English guidance and case law are intended to provide context for the discussion that follows, as no sources are cited. The Planning Statement goes on to state that:

“The test of whether harm would be substantial is independent of valuation of the asset, and therefore reference to criteria used in the EIAR for establishing the magnitude of impact are relevant”; and

“As no effects arising through change to setting have been assessed as higher than a moderate magnitude of impact, it is therefore clear that substantial harm would not arise to any designated heritage assets. Therefore, the relevant requirements of the NMP are met and the consenting applications accord with policy GEN 6.”

Historic Environment Scotland – Longmore House, Salisbury Place, Edinburgh, EH9 1SH
Scottish Charity No. **SC045925**

VAT No. **GB 221 8680 15**



As previously explained, we disagree with the definition of a medium adverse magnitude of impact used in the cultural heritage assessment methodology, as we consider it disproportionately low in comparison with the high magnitude category and inconsistent with the approach set out in the [EIA Handbook](#). We discuss how this methodology has been applied in our asset-specific comments below, under the heading ‘Our Historic Environment Interests’.

It is also unclear why the value of a heritage asset (referred to as ‘importance’ in the assessment methodology matrix) should be disregarded when considering policy compliance. The conclusion that substantial harm would be avoided appears to rely on the assessment methodology itself, rather than on a clear explanation of how the significance of the affected assets and the nature of the predicted effects have been considered in policy terms.

We do not agree that the proposed development complies with policy GEN 6 in relation to St Mary’s Abbey, Iona, monastic settlement (SM12968), and Iona Abbey (LB12310). On this basis, **we object** to the proposed development as applied for under the Section 36 application and associated marine licence applications, because the settings of these assets would not be appropriately protected. As noted above, our detailed comments on the setting impacts on these assets are set out later in this response.

National Planning Framework 4 (NPF4)

We disagree with the applicant’s conclusions regarding compliance with the National Planning Framework 4 (NPF4), including the assertion that:

“Given the thresholds in relation to substantial harm are not met, it is therefore also concluded that the integrity of setting would not be significantly affected” for all assessed scheduled monuments.

This statement implies that conclusions regarding compliance with the National Marine Plan (NMP) can be directly applied to NPF4, without considering the specific requirements of Policy 7.

In considering the integrity of the setting of scheduled monuments, we apply the established definition that:

“Changes to factors of setting that contribute to cultural significance such that the understanding, appreciation and experience of an asset are not adequately retained will have a significant adverse impact on the integrity of its setting.”

This definition has been considered, discussed and accepted through appeal and public local inquiry processes and is published on [our website](#).

The proposed development would result in a significant adverse impact on the integrity of the setting of St Mary’s Abbey, Iona, monastic settlement (SM12968). As such, the development fails to meet Policy 7(h)(ii) of NPF4, which requires significant adverse impacts on the integrity of the setting of scheduled monuments to be avoided.

Historic Environment Scotland – Longmore House, Salisbury Place, Edinburgh, EH9 1SH
Scottish Charity No. **SC045925**

VAT No. **GB 221 8680 15**



The EIA Report also identifies significant effects on the settings of two category A-listed buildings, including Iona Abbey (LB12310), but these effects are not addressed in the Planning Statement. In the case of Iona Abbey (LB12310), the development would fail to meet the requirements of Policy 7(c) of NPF4, which states that development proposals affecting the setting of a listed building should preserve its character and special architectural or historic interest.

For these reasons, **we object** to the proposed development as applied for under the Section 36 application and associated marine licence applications.

ANNEX B

Our Historic Environment Interests

The proposed WDA infrastructure has the potential to adversely affect the setting of many designated assets within our statutory remit. Given the high number of sites that may be affected by the proposed development, this response does not provide comments on every asset. Instead, it sets out our detailed objection in relation to St Mary's Abbey, Iona, monastic settlement (SM12968), and Iona Abbey (LB12310). It also includes comments on other designated assets within our remit that do not form part of our objection, but for which the applicant has identified likely significant EIA effects.

We understand that an initial screening assessment was undertaken, corresponding to Stage 1 of the assessment process outlined in our Managing Change: Setting guidance. However, this assessment does not appear to have been included as an annex to Appendix 14.3: Settings Assessment. As a result, some of our comments below may relate to matters that were considered during that initial screening stage but are not available for us to review.

The combined assessment of the WDA, ECC and OnTDA in the cultural heritage chapter (Chapter 14) concludes that, as no surface infrastructure is currently proposed for the Offshore ECC, there would be no greater effects on the setting of heritage assets than those already identified in the WDA-only assessment (Chapter 14, page 116). We are content to agree with this conclusion and would welcome the opportunity to review and provide advice on the forthcoming applications and assessments for these elements.

St Mary's Abbey, Iona, monastic settlement (SM12968) and Iona Abbey (LB12310)

At a pre-application meeting with the applicant in December 2025, we highlighted that the monastic settlement and abbey at Iona have separate scheduled monument and category A-listed building designations. Based on the information provided at that stage, we considered that the proposed development had the potential to affect the ability to understand, appreciate and experience these assets.

Given the relationship between the two assets, we advised that the EIA Report should establish and describe their baseline settings and cultural significance in a holistic manner, while also considering the likely effects of the proposed development on each designation. We further advised that the assessment clearly reference the relevant policy and guidance requirements for scheduled monuments and listed buildings. To assist with this, we recommended following the staged assessment process set out in our Managing Change: Setting guidance.

Stage 1 of our Setting Guidance is to identify the historic assets that might be affected by the proposed development.

Our comments below first set out the history of St Mary's Abbey, Iona, monastic settlement (SM12968) and Iona Abbey (LB12310), together with the designated assets and undesignated features that contribute to their baseline settings and cultural significance, including artistic and intellectual associations.

We then establish the individual aspects of the settings of both assets in relation to their respective designations. This is followed by an assessment of the effects of the proposed development on those settings, including how the assets are understood, appreciated and experienced both individually and as interconnected elements of a wider historic landscape, in line with Stages 2 and 3 of the guidance.

We conclude by setting out the basis of our objection, explaining how the proposed development would result in significant adverse impacts on the settings of SM12968 and LB12310, and how this conclusion is supported by the National Marine Plan (NMP), National Planning Framework 4 (NPF4) and the Historic Environment Policy for Scotland (HEPS).

Identifying the Historic Assets

The religious complex at Iona contains the remains of a large early medieval monastic settlement founded by St Columba around AD 563, which was superseded by the now-restored medieval buildings associated with the Benedictine Abbey of St Mary founded around AD 1200.

One of the oldest and most important religious centres in Western Europe, and widely regarded as the birthplace of Scottish Christianity, the medieval monastery at Iona survives as a complex sequence of features and buildings added to and adapted over hundreds of years. The abbey was consolidated and then restored from the late 1800s onwards. It now houses an active and vibrant community. The efforts to restore the buildings were in no small part inspired by the recognition of its early origins, the association with St Columba, its impact on Scottish Christianity and Scottish and Irish Gaelic identity. These factors also help ensure its continued reverence and relevance within Scotland's national story, as does the presence of the Iona Community. These associations, together with its setting combines and contributes to its sense of place. Each element in Iona's history contributes to its significance. The site draws thousands of visitors annually from across the world.

The following section describes the history of both assets, together with the designated assets and undesignated features that contribute to their baseline settings and cultural significance, including artistic and intellectual associations. This provides context for the subsequent assessment of the proposed development's impacts on the settings of SM12968 and LB12310, both individually and as interconnected elements of a wider historic landscape.

St Mary's Abbey, Iona, monastic settlement (SM12968)

The scheduled area contains the remains of the early medieval monastery founded by St Columba and much of the wider complex associated with the later medieval abbey, including the footings of the abbey buildings.

St Columba's mission to western Scotland was based on his initial monastic foundation on Iona. Beginning under his guidance, over the next few centuries, the monastery grew to become a large complex of segregated and enclosed spaces, which itself referenced and became part of a complex of sites and monuments across Iona and beyond. There is some evidence to suggest the monastery was laid out over an earlier site.



A large, monumental bank-and-ditch, known as a vallum, initially constructed in the 6th or 7th centuries, encloses the site on all landward sides, with the seaward side bounded by a raised beach to the east. Parts of the vallum survive to a considerable height.

Early medieval written records suggest Columba's monastery contained a church; huts in which the monks worked and slept; a house or houses for guests; and a communal building (likely a kitchen and refectory). Another hut, Tòrr an Aba, situated in a higher place and used by Columba for writing, is also described. Outlying buildings, possibly lying beyond the vallum, included more functional agricultural buildings and dwellings and guest houses for those of low status. The buildings were likely mostly constructed of earth and timber, and the remains of this early medieval monastery now survive only as buried archaeology adjacent to, and probably beneath, the medieval abbey.

The centre of the site was the holiest part of the monastery, centred on St Columba's shrine chapel. In its original form it is the oldest building on Iona. Its foundations suggest a chapel dating to the 9th or 10th centuries, closely resembling some of the earliest Irish stone churches. Originally a detached building, it was incorporated into the Abbey in the mid-15th century and reconstructed in 1962. It is believed that this housed the relics of St Columba and may mark the saint's original burial place. It would have been the main focus of journeys of pilgrimage to the monastery. Burials, including that of Columba, were made throughout the centre of the site during the early middle ages. In front of the chapel and framing the core of the monastery sits a holy well and two remaining impressive high crosses, one of which is now a replica. Several other high crosses and cross bases have been found around this area, suggesting the monastery's core was marked by a concentration of these tall sculptures.

Just outside this cluster of features lies Tòrr an Aba: knoll of the abbot. Archaeological excavation of this small, prominent rocky outcrop has revealed the remains of a small single-celled building, now generally regarded as being the remains of Columba's writing hut mentioned in *The Life of St Columba*, a near-contemporary account of St Columba's life written by Adomnàn, the ninth abbot of Iona, in the late 7th century.

Columba was instrumental in introducing Christianity to the north and west of Britain, first to the Gaelic kingdoms of north-west Scotland, then extending beyond that into the lands of the Picts in north-eastern Scotland. In the 7th century the monastery on Iona played a leading role in the conversion of Anglo-Saxon Northumbria and attained primacy over the Pictish church of eastern Scotland. It held authority over a confederation of churches across Scotland and Ireland, becoming the most powerful of such bodies which emerged in Ireland during the late 6th and 7th centuries. For over two centuries, Iona was one of the most celebrated centres of Scottish and Irish Gaelic religious life.

During this period, Iona held international importance and was in regular communication with the Roman church, with monastic scholars from Iona visiting and influencing religious life and practice across Europe. It was also vulnerable to attacks by Vikings and was raided multiple times in the late 8th and early 9th centuries. In the 9th century, the main Columban community moved to Kells in Ireland and Columba's relics were transferred to Dunkeld, within the heart of the emerging Scottish kingdom. Whilst it retained its associations with the saint, Gaelic culture, and the conversion of Scotland, the Iona monastery and its community



continued as a centre of regional rather than international importance. Survival of a monastic community of the 'Celtic' type continued until the late 12th century.

After the monastery was passed to the reformed Benedictine monastic community, the new abbey buildings became the visual and spiritual focus of the wider monastic complex. Whilst the segregated spatial structure of the earlier monastery began to lose its relevance, the abbey drew inspiration and significance from the presence of the earlier church and its connection to St Columba. Many of the main features that formed the core of the earlier monastery were directly subsumed into the core of the new complex and were referenced by the abbey buildings. The area of the earlier monastery continued to be used to serve the new Benedictine monastic community, as farmland and presumably to house pilgrims and others more loosely associated with the running of the abbey.

The following subheadings describe notable features within the scheduled area of St Mary's Abbey, Iona Monastic Settlement (SM12968).

Sràid nam Marbh

Part of an impressively paved road or causeway is visible to the south of Tòrr an Aba, known as Sràid nam Marbh ('Street of the Dead'). This is the only visible section of a network of routeways leading to the monastery from the south, it was first constructed sometime between the 7th to 10th centuries. The road continued to Port nam Mairtir (Martyr's Bay) which is believed to have been the primary landing point for access to the monastery. A large, mounded feature at Port nam Mairtir, An Eala, contains at least 40 burials that are contemporary with the Columban monastery. The route from Port nam Mairtir to the monastery terminates at St Columba's shrine chapel, which is generally accepted as the central destination of a journey of ritualised Christian pilgrimage across the island, and which was later incorporated into the abbey. A series of medieval high crosses stand or stood next to this routeway. Pilgrims travelled to Iona along maritime routeways and across land, with crosses, chapels and portage sites across the Ross of Mull indicating a complex and regularised pilgrimage route for those that chose to come that way.

Reilig Odhráin

The Reilig Odhráin ('Oran's burial ground') named after St Oran, a cousin and contemporary of Columba, is traditionally believed to be the burial-place of the first kings of Scotland. Irish annals suggest Irish and Norse kings were buried on Iona from the 8th to 10th centuries, while other documents maintain that, throughout the 9th-11th centuries, Scottish kings were buried here. Many of the impressive collection of carved stones may have marked burials from this period. Accompanying these are many belonging to later medieval Gaelic lords. Most early and later medieval funerary monuments known from the monastery and later abbey were originally found in the Reilig Odhráin. The graveyard has continued in use since, most notably for John Smith, a prominent leader of the Labour Party, in 1994.

St Oran's Chapel

St Oran's Chapel, standing within the Reilig Odhráin, was built in the 12th century, but may incorporate an earlier chapel. The carvings over the entrance are of an Irish Romanesque style. It may have been built by Somerled, a Norse-Gaelic lord and the first King of the Isles, or his son Ranald, as a family mortuary or chapel. In the later medieval period, it served as



the burial-place of the MacDonald Lords of the Isles, descendants of Somerled. The south interior wall of the chapel contains a particularly ornate 15th-century tomb recess, likely belonging to one of the first Lords of the Isles.

St Mary's Chapel

This chapel was built sometime after the Benedictine abbey, but its function in relation to the latter is uncertain. A branch of the monastery's medieval road network swung past this building, suggesting it was used primarily by pilgrims visiting the abbey.

Tigh-an-Easbuig

Tigh-an-Easbuig, the Bishop's House, was intact but roofless in the later 18th century and ruinous by the middle of the 19th century. It dates from after 1499 and may be contemporary with the short-lived restoration of the abbey church as the Cathedral of the Isles in the 1630s.

Iona Abbey (LB12310)

Iona Abbey (LB12310) lies within the scheduled area of St Mary's Abbey, Iona Monastic Settlement (SM12968), but is separately designated as a category A-listed building.

The Benedictine abbey on Iona was probably founded by one of Somerled's descendants around 1200. With an impressive Romanesque church at its core, it is by far the largest and most elaborate ecclesiastical monument in the West Highland area, denoting the wealth, cultural connections, and aspirations of its patrons, the Kings of the Isles and later the MacDonald Lords of the Isles.

The buildings conform to a standard lay-out with the cloister being enclosed by an east range containing the Chapter House and monks' dormitory, a north range containing the refectory with the Abbot's House and reredorter located to the north and west range which was built in the 20th century replacing an earlier range that contained the kitchen. The remains of the bakehouse are visible to the west of this range. The front of the abbey enclosed and symbolically embraced St Columba's shrine. Its entrance aligns with the core of the earlier monastery, including the shrine, Tòrr an Aba and the high crosses at the end of the pilgrimage route. The frontage and entrance into the abbey were further accentuated by the height of the surrounding walls, stone sculpture, and architectural details surrounding the doorway and those around the windows above. These would have accentuated the entrance to the abbey as a backdrop to the group of features immediately in front of it and welcomed pilgrims to worship in the interior. It is noteworthy that the claustral ranges lie to the north of the church rather than the more conventional south (a church to the north, being the tallest structure, avoids blocking light and warmth to the cloister). This was probably done either to capture water from a nearby burn for the reredorter, or to avoid pre-existing areas of significance relating to the earlier monastery.

The church was built in the Romanesque style during the first two decades of the 13th century, probably by Irish stonemasons, with a cruciform layout. Prior to completion, the chancel was extended to form an aisled choir above a crypt. This likely reflected the growing community as domestic quarters were built as part of the cloistral complex in the



13th century. The use of dog-tooth ornament during this phase suggests that masons from eastern Scotland were present.

An enlarged south transept was proposed, possibly to house a crypt and occupy two storeys and/or to accommodate pilgrims viewing the church's relics; only the footing of the walls was laid before work was abandoned.

By the early 15th century, the church was in poor condition and major repair and alterations were undertaken. The east wall of the choir and the entire south wall of the church were demolished and rebuilt to provide a wider nave and choir, and a south aisle to the choir. The central tower and caphouse, one of the most impressive and visible features of the church, were built at this time. This work was likely overseen by Donald Ó Brolcháin, an Irish master mason, whose signature appears on one of the capitals of the crossing piers.

The church was embellished with fine traceried windows and rich carving, notably a frieze of religious and genre scenes decorating the capitals of the south choir arcade. The appreciation of foliate decoration as well as cusped ogee arches can be seen across the artistic output of Iona at this time; in the sedilia in the presbytery, in the canopied tomb in St Oran's and on the grave slabs. This highlights the influence of the Iona and West Highland schools of monumental sculpture.

Michael Chapel, which stands separate from the main body of the abbey, probably also dates to around 1200 and would have allowed worship to continue while the abbey was being constructed.

The abbey buildings became derelict following the Reformation in 1560, although attempts were made to retain its relevance within a reformed Gaelic church, patronised by the Campbells, who had eclipsed the MacDonald Lords of the Isles, and to a lesser extent by the MacLeans. The position of Bishop of Iona and the Isles was retained, and Columba reenvisioned as a practitioner of a pre-Catholic Protestantism. An attempt was made in the 1630s by bishop Neil Campbell on behalf of Charles I to restore the eastern parts of the church for use as a Cathedral of the Isles. The reuse of the church was short-lived as by 1693 it passed into the ownership of the Argyll family. Parts of the church building began to collapse in the 18th century, with the 3rd Duke of Argyll taking steps to protect the ruins. It was during this time that the existing boundaries of the abbey were established.

As early as the 18th century the Abbey, including its church, had gradually deteriorated into the romantic ruins beloved by visitors touring the Scottish Highland and Islands. Famous visitors included Walter Scott, William Wordsworth and Prince Albert and Queen Victoria (the latter staying/sketching from the boat). Iona became a place of antiquarian curiosity that inspired writers and artists.

A comprehensive restoration of the ruins was undertaken for the 8th Duke of Argyll in 1874-6 by the renowned architect Robert Rowand Anderson between 1874-6. In 1899, the Duke of Argyll donated the Abbey and other buildings to Iona Cathedral Trustees on the basis that the church would be restored as a place of worship. The abbey complex then underwent a sequence of restorations beginning in 1902. These were aided by leading Scottish conservation architects of the time including Thomas Ross, John Honeyman, and

Historic Environment Scotland – Longmore House, Salisbury Place, Edinburgh, EH9 1SH
Scottish Charity No. **SC045925**

VAT No. **GB 221 8680 15**



Peter MacGregor Chalmers. The Iona Community, established by Reverend George MacLeod, undertook restoration of the remaining abbey buildings began in the late 1930s, led by architect Ian G Lindsay, which was completed by 1965. The restoration work retained the raw masonry of the ruins to evoke connections to the original Benedictine abbey and Columba's earlier monastery.

Other Designated Assets and Undesignated Features

Cladh an Diseart (SM804)

Cladh an Diseart ('Burial ground of the Hermitage') is the remains of a small rectangular building, probably a chapel, set within an enclosure. The site's name suggests these remains stand on or close to the site of the 'dìsirt', a word evoking the desert hermits that exerted huge influence on early Christianity, whose practices Columba and many members of the Iona monastic community sought to emulate. This indicates that this site was a place of retreat for members of the community, and it was named in relation to the monastery in 1164. Although designated as a separate scheduled monument to the north of St Mary's Abbey, Iona Monastic Settlement (SM12968), it forms part of the wider monastic complex.

Cladh an Diseart is about 200m north of the monastery's outer vallum and below the raised terrace where the monastery was built. Its setting is marked by its separation from the larger monastic complex to the south. The sense of isolation is enhanced by the open fields surrounding it, and by the sea nearby, but the monastery can be seen to its south, visually connecting these two places of contemplation.

Iona Nunnery (SM90350)

The nunnery is a modest collection of buildings, built around three sides of a cloister, served by a small chapel included in one of the ranges. It was built shortly after the abbey, although slightly enlarged in the late 1400s, and closely associated with the same family of patrons. It is one of only two Augustinian nunneries in Scotland and probably only ever housed a small community. Excavations have recovered high status domestic goods associated with the later community. The community survived until the Reformation.

Amongst Iona's collection of later medieval carved stones are some of the few representations of medieval Gaelic women, including a Prioress.

Whilst one of the building ranges is well preserved the rest of the nunnery is now ruined and a large part tended as a garden providing a quiet retreat for modern visitors.

The nunnery is a dominant presence on the modern route from the ferry to the monastery, mirroring its place on historic routeways. Pilgrims and visitors see a relatively stark wall containing three small windows, one capped with a carving of a sheela-na-gig: an enigmatic yet provocative female figure. From the nunnery the monastery is highly visible and vice versa. This reciprocal visual referencing is likely to have been deliberate.

St Ronan's Church

Beside the nunnery stands St Ronan's Church, which is now contained within the same walled enclosure and forms part of the same designation. St Ronan's served as the later medieval parish church for the island's inhabitants but was built on the site of one of the



earliest dated chapels on Iona. It remained in use as a graveyard for women and children into the 18th century.

McLean's Cross (SM90173)

This 15th century cross, bearing ornate carvings in the West Highland style, is situated close to the junction of three medieval streets. Standing up to 3m high it marks the route between the coast and the monastery. It appears to have been commissioned by the MacLeans of Duart, who were increasing their powerbase in the area at the time.

Dún Í

This natural hill is the highest point on the island, despite being only 100m above sea level, and lies to the northwest of the monastery. Early medieval writing records it being visited by St Columba and his acolytes, where the saint notes a storm passing to Ireland and then performs a miracle to save those affected by the storm. From the top of the hill there are wide sweeping views across Iona, the Inner Hebrides and out over the sea beyond.

St Columba's Bay

St Columba is said to have landed on Iona at this bay on the south end of the island, before setting up the monastery to the north. It sits separate from the monastery and modern settlement and has been visited and venerated by visitors since at least the late 1600s. Small acts of worship and sculpture are visible around it. Its exposure to the sea and wide-open views southwards across the sea and towards Ireland accentuate Columba's connections to and separation from Ireland. It tells an important part of Columba's and the monastery's story.

Artistic and Intellectual Output

The artistic and intellectual output of the early medieval monastery on Iona is of international significance and most clearly articulated in the stone sculpture and texts of the early medieval period. Some of the earliest post-Roman texts written in the British Isles are likely to have been made on Iona. These include the *Cathach*, probably written in Columba's own hand; and the Book of Kells, the most elaborate and accomplished existing Hiberno-Saxon gospel book. It has been suggested that the Book of Kells was created to commemorate the 200th anniversary of Columba's death, or possibly the enshrinement of his remains about AD 750. Iona is also one of the earliest monasteries in Europe to produce annals. Scholars have also suggested that the Book of Durrow was written on Iona.

Adomnán's *Life of St Columba*, probably written on Iona, is one of the most important surviving documents providing insights into early Scottish and Irish Gaelic history. A now lost *Iona Chronicle* that survives in fragments in other documents had a similar impact. Adomnán's *Law of the Innocents* is cited as the first human rights document, which influenced all that followed – demonstrating the worldwide and continuing impact of the monastery.

Iona's collection of Early Christian carved stones is one of the largest in the British Isles and Ireland, surpassed only by that at Clonmacnois, in Ireland. Iona is likely the place of origin of the ringed or Celtic cross, a symbol now recognised globally. Iona's freestanding high crosses, three of which are reconstructed in the abbey museum, with a replica of one and



an original still standing in their original position, represent an early and experimental form of sculpture not derived from any tradition of established stone carving. Dating from the 8th and 9th centuries, these crosses were almost certainly carved on Iona. St John's Cross, the prototype ring-headed high cross, is the first of its kind anywhere in the world. These stood in front of St Columba's shrine and the abbey. Visible along the route into the core of the abbey, they served as a focal point for the pilgrimage, a point of prayer at the end of the journey and helped focus the transition into the holiest part of the monastery.

Inherent structural weakness led to the final and irreparable collapse of St John's cross in 1957. The existing category A-listed cross (LB52541) is a reinforced concrete replica erected in 1970. Its construction is a technical/engineering achievement and the cross itself is unique as a full scale, accurate replica in the same location as its original, early medieval predecessor.

Stone sculpture on Iona saw a resurgence during the 14th to 16th centuries in the form of West Highland grave slabs and effigies. Broadly associated with the Lords of the Isles, Iona has an exceptionally high concentration of about 150 grave slabs, many now located in the abbey museum and cloisters. The effigies represent either warriors or abbots, some identified by surviving inscriptions. They are an evocative symbol of Gaelic arts and culture.

Whilst earlier crosses also marked the route into the monastery from the landing point, the most impressive, surviving example, McLean's Cross (SM90173), belongs to this later period.

The sense of history and spiritual associations, connections to the Gaelic world and Columba, together with the living religious community at Iona, adds considerably to its cultural significance. As the birthplace of Scottish Christianity, it holds an iconic place in the national story and consciousness.

[Defining the Setting of St Mary's Abbey, Iona, monastic settlement \(SM12968\)](#)

The monastery of Iona was constructed on a relatively flat terrace sloping eastwards to the Sound of Iona. It is bounded by a raised beach to the east and craggy, low hills to the west. The close proximity of the Ross of Mull, with the Sound of Iona in between, strongly emphasises the island's distinct separation from the land around it. This sense of separation is reinforced by views up and down the sound, where the open ocean is strongly framed by the land on either side of it.

Perceived remoteness and the concept of spiritual and social isolation were important to the early church across the Christian world. While the monastery was constructed to evoke a sense of seclusion and remoteness, travel and journeying are nevertheless central to Iona's story. Columba travelled from Ireland to found the monastery, using it as a base to travel to even more remote island hermitages throughout the western seaboard, communicate with secular powers, particularly in Argyll, and to go on further to bring in others into the Christian fold. Pilgrimage became one of the core purposes of Iona, with countless pilgrims visiting the site in the centuries that followed. This practice continues today, with people of a variety of faiths and of no faith now visiting the monastery in varying acts of pilgrimage.



Whilst acting as a boundary, the sound simultaneously functions as a link, providing connections between Iona and the wider world. Crossing the sound is the final stage of an often-arduous journey for pilgrims and other visitors and heightens the anticipation of arrival.

Most travellers to Iona arrive on the Fionnphort ferry, across the sound, which has been used as a crossing point for visitors since the early medieval period. The modern-day journey to the monastery broadly mirrors this historical route of pilgrimage both in layout and experience. Crossing the sound elicits a clear sense of crossing a boundary and building anticipation. It also demonstrates Iona's separation from its surroundings, with the open ocean visible to the north and the south as the island is approached.

From the 7th to 9th centuries, Iona was monumentalised to create a complex devotional landscape defined by monastic enclosures, chapels, burial grounds, high crosses, and shrines. Recent research suggests that the liturgical landscape of the monastery on Iona was developed to mirror the heavenly Jerusalem in its layout. The journey along a paved roadway from the landing point, generally thought to be at Port nam Mairtir, to its terminus at St Columba's shrine chapel, provides a metaphor for pilgrimage to Jerusalem.

The modern tarmacked road running north through Baile Mòr, just to the north of Port nam Mairtir, broadly replicates the historic routeways that led to the monastery. The journey along this road was punctuated by various ecclesiastical buildings and monuments, with surviving elements including Iona Nunnery, St Ronan's Church, McLean's Cross, and St Oran's Chapel, before finally arriving at the site's core, focused on St Columba's shrine chapel. This journey is fundamental to the modern visitor's understanding, appreciation, and experience of the monument, giving a strong impression of the historic route of pilgrimage made by people in the medieval period.

The processional route ends in front of the abbey. With the establishment of the new Benedictine community, the abbey was deliberately placed at the sacred core of the earlier monastery. The impressive and ornate masonry abbey church and associated monastic buildings became a dominant visual focus from within and across the wider monastic complex. Drawing significance from the earlier church and its connection to St Columba, it incorporated and referenced many of the principal features of the earlier monastery. Together, the abbey and the core of the earlier monastery became, and remain, key visual and spiritual elements of the monument's setting. However, the connections to the earlier monastery remained significant.

Tòrr an Aba, probably the location of Columba's writing hut, gives views across most of the monastery and highlights its island context with the ocean visible to the north, east, and south. The view from Tòrr an Aba allows for an understanding of the clear sequencing of the pilgrimage journey from Port nam Mairtir, with the area of the ferry terminal, the Reilig Odhráin, St Oran's Chapel, Sràid nam Marbh and St Columba's shrine chapel all visible. The open ocean is framed in the view south by Mull's coastline and Iona's craggy interior: Sràid nam Marbh draws the eye in that direction, with St Oran's Chapel serving as a useful contextual marker beneath the horizon.

More widely, views south from within the core of the complex, across and out of the sound, look towards where Columba would have arrived from Ireland. It is also the route taken by pilgrims and modern-day visitors. The views out of the sound, over the sea to the horizon, accentuate the spiritual connections between Iona, western Scotland, and Ireland, and the strength of cultural and maritime connections. In many views from within the complex, St Oran's Chapel and St Martin's Cross are prominent, with the open ocean visible between or behind them, directly behind Sràid nam Marbh.

The modern road in the north of the island provides expansive views of the entire monastery in its wider context, with the Sound of Iona behind and the open horizon to the south. Visitors returning from the north of the island can gain a clear understanding of how the various components of the monastic complex relate to one another, as well as an appreciation of the site's evolution through time. The massive remains of the vallum stand to the right, while Tòrr an Aba, St Oran's Chapel and Tigh-an-Easbuig are all visible. The sea both frames these views and is framed by the surrounding landforms, clearly articulating the monastery's insular location and evoking both the sense of sea-girt separation from the world beyond and Columba's journey from Ireland beyond the horizon. This sense of separation is especially apparent from the eastern parts of the monastery, around the edges of the raised beach defining its eastern boundary, and from Cladh an Disear.

Iona was seen by its monks as being 'at the edge of the Ocean' and 'at the limit beyond which no-one dwells'. The monastery's sense of separation from the world around it can be most clearly appreciated from the higher parts of Iona, particularly Dùn Ì, from which the entire island is visible. The wide, open expanse of the Atlantic is visible in an arc from the south to the north. The *Life of St Columba* describes how Columba himself climbed Dùn Ì, where he witnessed a storm passing towards Ireland. The view across the monastery and the rest of the island is likely to be broadly similar to that which would be seen during Columba's lifetime.

As well as establishing the island's clear separation from its surroundings, views from Dùn Ì also give a clear outlook towards Columba's Bay at the south of the island and the open horizon, towards Ireland, beyond. Columba is traditionally said to have landed in this bay, choosing Iona for his monastery because Ireland was now no longer in sight. This tradition is first recorded in the 18th century and, while Ireland's invisibility from Iona may not have factored into Columba's motives for founding his monastery here, this story is closely associated with subsequent perceptions of his world view and links to Ireland. The wider views across the sea to the southern horizon are therefore an important part of the understanding, appreciation, and experience of Iona.

In addition to the sense of separation, outward views from the monastery are deeply impressive, with the expansive seascape, distant hills and dynamic skies contributing to their scenic quality. The absence of large-scale modern development contributes to this, and to the historic character of these views.

Key factors of the scheduled monument's setting include:

- Views towards Iona and the monastery when crossing the Sound of Iona.
- The monastery's coastal and island location.

Historic Environment Scotland – Longmore House, Salisbury Place, Edinburgh, EH9 1SH
Scottish Charity No. **SC045925**

VAT No. **GB 221 8680 15**



- Reciprocal views along the route between the monastery and Port nam Mairtir and Baile Mòr.
- The sense of perceived remoteness and separation from the outside world.
- The sense of being bounded by the sea, with wide open views out of the sound to the open horizon beyond.
- Views towards Ireland, hidden beyond the horizon.
- The reciprocal relationship with the abbey.
- Views between the various elements of the monastery, with the Sound of Iona and the sea beyond.
- Views across the monastery and its wider surroundings from the northern parts of the monument
- Views across the monastery and its wider surroundings from Cladh an Disear
- Panoramic views across the monument, Iona, the western horizon and seaboard from Dùn Ì.

Defining the Setting of Iona Abbey (LB12310)

As with the monastic monument, most travellers to Iona arrive on the Fionnphort ferry, across the sound which has been used as a crossing point for visitors since the early medieval period. The modern pilgrimage route broadly mirrors the historic approach. The abbey's increasing prominence along this route, first visible from Mull and then drawing closer during the sound crossing and approach through Baile Mòr, makes it an important landmark and the culmination of the journey.

The church assumes increasing visual prominence along the southern approach as distance and partially screened views are replaced, culminating in unobstructed views of the church upon arrival. This unfolding of views creates a sense of anticipation. The church's prominence, expressed through its robust architectural character including its massing, form, and distinctive features, such as the tower, communicates its architectural and historic importance within the site.

The processional route ends at what is now the abbey forecourt; this is a highly significant part of the site. Its importance is reflected in a number of features and structures of Early Christian origin, their antiquity and connection to St Columba adding to the sanctity of this space, including St Columba's Shrine Chapel; the high crosses of St John, St Martin and St Matthew; the well; the bullaun (prayer) stones; the trough known as the "Cradle of the North Wind"; and Tòrr an Aba. The high crosses not only monumentally demarcated the entrance to the centre of the site at the end of the pilgrimage journey, but they also provided a focus for prayer and meditation.

The front of the abbey encloses and symbolically embraces St Columba's shrine. Its entrance is aligned with the core of the earlier monastery, including the shrine, Tòrr an Aba, the high crosses and the end of the pilgrimage route, reinforcing the continuity of religious significance and activity across the site. As the abbey evolved from and incorporated the core of the earlier monastic settlement, the monastic site itself is a key component of the abbey's setting.

Views south from the core of the abbey complex, across and out of the sound, look towards where Columba would have arrived from Ireland. It is also the route taken by pilgrims and modern-day visitors. The views out of the sound, over the sea to the horizon, accentuate the spiritual connections between Iona, western Scotland, and Ireland, and the strength of cultural and maritime connections. In many views from within the complex, St Oran's Chapel and St Martin's Cross are prominent, with the open ocean visible between or behind them, directly behind Sràid nam Marbh.

From the front of the abbey, attention is also focussed east; towards St Columba's Shrine Chapel, the 'front' of the high crosses and the entrance elevation of the church. This east-facing direction follows the long-standing Christian tradition of orienting churches towards the rising sun, in expectation of Christ's resurrection. In these views, the Sound of Iona and the hills of Mull form the backdrop. This visually and symbolically connects the abbey to the east.

The church interior conveys the sombre and reverential character of the sacred space. Built as a place of worship, its design corresponds to its function; the church is orientated in the accepted direction of veneration with windows placed above eye-level to focus the monks (and visitors) attention on the altar in the presbytery. There is therefore a limited relationship between the interior of the church and outwards views.

Similarly, the design, position, and orientation of the cloister garth and conventual ranges provide inward-facing views. The architectural character of the abbey (as a whole) creates an enclosed, secluded and contemplative atmosphere that reflects internal monastic life. Outward views from east range buildings are limited to axial views to Mull due to their recessed position in relation to the abbey choir and the now museum building. The contrast between the abbey's enclosure/inward focus and open, coastal surroundings is part of the abbey's spatial experience.

Key factors of the listed building's setting include:

- Views towards the abbey when crossing the Sound of Iona.
- The abbey's coastal and island location.
- The abbey's increasing visual prominence along the approach.
- The role of the abbey as the culmination of the pilgrimage route.
- The reciprocal relationship with the monastic site.
- The visual and symbolic relationships with the Sound of Iona, Mull and the east.
- The relationship between the church and the cloistral buildings.

Shared Setting and Relationship Between SM12968 and LB12310

The medieval abbey precinct is now defined by a rectilinear enclosure of ha-has, which encompasses a smaller area than the early medieval monastery. The monastery had an outer vallum that extended much further north into what is now pasture between the abbey and Grianan. This feature remains clearly visible to the west and north-west as a massive upstanding bank and ditch, and its line can be seen continuing through the field north of the abbey. Views south across this area allow for the expansive size of the early medieval monastery, and its spatial contraction into a later medieval Benedictine foundation, to be



understood, appreciated and experienced. The Sound of Iona and the abbey are dominant in these views, with both the north and south mouths of the sound visible.

The modern road to the north of the island provides expansive views of the entire monastery in its wider context with the Sound of Iona behind and the open horizon to the south. Visitors today can appreciate this view when returning from exploring the north of the island and can gain a clear understanding and appreciation of how the various components of the monastic complex relate to each other, as well as the monument's evolution through time. The massive remains of the vallum stand to the right, with Tòrr an Aba, St Oran's Chapel, the reconstructed abbey, and Tigh-an-Easbuig all visible. The abbey, at the core of the monastery, dominates and provides a focal point in views down the coastline and over the open southern horizon. The sea both frames these views and is framed by the abbey and Cnoc nan Carnan, clearly articulating the monastery's insular location and evoking both the sense of sea-girt separation from the world beyond and Columba's journey from Ireland beyond the horizon.

This sense of separation is especially apparent from the eastern parts of the monastery, around the edges of the raised beach defining its eastern boundary, and from Cladh an Disear, where views emphasise the relationship between the monastery, the abbey, the Sound of Iona and the surrounding seascape.

Iona has seen a growth in settlement since the monastery was in use, mostly in the 19th - 21st centuries. In the main, this later development is small and largely domestic in scale and set low down or to the back of views out from the monastery, being largely clustered around the ferry port within Baile Mòr, alongside the roadside between it and the monastery or scattered to its west. It does not feature significantly in views out from Dùn Ì and is absent in views from St Columba's Bay. Although modern settlement is visible in some views, its limited scale, dispersed pattern and generally low-profile character mean that it does not substantially detract from the appreciation of the monastery or the abbey's historic or island setting.

In summary, the monastery is an unparalleled example of a medieval monastic foundation with religious activity spanning more than a thousand years. The evidence for its exceptional importance is enhanced by an exceptionally rich archaeological and historical record. The characteristics that made Iona a suitable location for a major monastic foundation can still be readily appreciated through views from, towards and across the monument. The rationale for placing the monastery here can be readily understood, appreciated, and experienced in a variety of views from, towards, and across it. Many of these views, including over the horizon towards Ireland, are themselves laden with deep historical significance and religious meaning.

The reconstructed abbey remains the visual and spiritual focus of the wider monastic complex, its prominence reinforcing its role as the culmination of the historic pilgrimage route and the centre of religious life on the island of both the monastery and the abbey. Iona's setting evokes the spirit of St Columba and possesses a powerful sense of place, created by the interplay of its landscape, seascape, archaeological remains and ecclesiastical buildings. This setting is fundamental to the cultural significance of both assets and is highly sensitive to change.

Historic Environment Scotland – Longmore House, Salisbury Place, Edinburgh, EH9 1SH

Scottish Charity No. **SC045925**

VAT No. **GB 221 8680 15**



Key shared factors of setting include:

- Reciprocal views between the abbey and the wider monastic complex.
- Views towards and out from the core of the religious complex, including the reciprocal relationship with the pilgrimage route and the crossing from and back to Mull.
- Views south across the Sound of Iona, including outwards towards Ireland and western Scotland.
- The site's coastal and island setting, and its relationship with the surrounding seascape.
- The sense of perceived remoteness and being bounded by the sea, with wide open views out of the sound to the open horizon beyond.
- The ability to understand the extent and evolution of the monastic complex through time, including the reciprocal relationship between the early medieval monastery and the later abbey.

Assessing the Impact of the Proposed Development

The EIA Assessment

The assessment of impacts on the settings of St Mary's Abbey, Iona, Monastic Settlement (SM12968) and Iona Abbey (LB12310) in Appendix 14.3 largely considers the two assets together. Impacts on both assets are assessed primarily under the scheduled monument heading on page 78, while the predicted magnitude of change and significance of effect for the listed building are addressed in a supplementary paragraph on page 144.

The applicant's assessment is largely contained within Section 1.6.1.5 of Appendix 14.3. In Paragraph 125, the applicant includes a list of key views identified by HES prior to the application being submitted. This appears to misunderstand the intent of our letter of 20 February 2026, which highlighted a number of setting factors that, based on the limited visualisations available at that stage, appeared likely to be affected by the proposals. The examples provided were not intended to represent a comprehensive assessment of the settings of either the scheduled monument or the listed building. The letter also emphasised the importance of considering the monastery as an interconnected whole, comprising a range of related features and places, rather than as a series of separate entities.

The applicant places a strong emphasis on HES's Statement of Significance for the Property in Care (the area it cares for and manages on behalf of Scottish Ministers), which articulates aspects of its cultural significance. While we encouraged the applicant to refer to this, the Statement of Significance relates only to the area in the guardianship of Scottish Ministers. This area is defined by the boundary wall around the Reilig Odhráin and the ha-ha enclosing the abbey. Additionally, whilst containing helpful information, Statements of Significance are produced to assist HES in the management of its estate. When considering proposals, we advocate a broader approach that considers all aspects of an asset's cultural significance and relies on the relevant policies and guidance for managing change in the planning system.

For instance, the applicant's assessment notes that the only view of importance mentioned in the Statement of Significance is that to the east across the sound to Mull and the

Historic Environment Scotland – Longmore House, Salisbury Place, Edinburgh, EH9 1SH

Scottish Charity No. **SC045925**

VAT No. **GB 221 8680 15**



direction where Christ is meant to arise on the day of judgement. This becomes the main focus for their assessment of impacts. This substantially underplays the complexity of the monastery's setting and contribution that wider views make to that.

The applicant suggests the historic act of pilgrimage is difficult to reconstruct. This seems to ignore the surviving historical and cartographic evidence and the pattern of surviving monuments that mark that journey.

The applicant's conclusions appear to rely on a very narrow interpretation of what constitutes a view. They seem to suggest that when looking at a specific feature it is only that feature which forms the view: they cite the view of St Columba's Shrine from Tòrr an Aba as an example. However, this does not reflect real world experiences. Views are framed by what lies around them, views change as people move around a site and, in the case of views out from Tòrr an Aba, there are a variety of related features to appreciate at any one time, where the viewer looks around, through and over the assets to appreciate them as a grouping within their setting.

Where the applicant refers to what they call the far horizon or the 'ever present sea' they emphasise this as a distant background to the 'principal foci of views'. They place a similar emphasis on specific views of features, such as the abbey in views from the ferry or the journey up from it, noting that the viewer would need to turn to perceive their wider surroundings of the location of the proposed development. However, an asset's setting is often perceived in the round, especially when moving around or where the wider views contribute to an overall sense of place.

Whilst acknowledging that the absence of the modern contributes to the sense of romanticism and spirituality, when assessing these views, the applicant focuses instead on the foregrounding of buildings and topography, suggesting that the prominence of buildings, modern infrastructure on the island and other landscape features restrict outward views. This over-emphasises the presence of modern settlement in these views and again ignores the contribution of wider and longer distance elements to these views.

When assessing impacts the applicant also appears to focus on what cannot be seen, regularly noting that half of the proposed development would be obscured, rather than the impacts of what would be visible and what the impacts of those might be.

The applicant acknowledges the symbolism of views towards Ireland for the monastery in that 'the sense of another place beyond the horizon becomes significant' but does not assess the proposals' impacts on this. When considering the impacts on the views from Dùn Ì, they again focus largely on the views towards the monastery and note that many of the other features referenced are not directly visible, seeming to dismiss the relevance of the panoramic views, the importance of the horizon and the associations with the locations not directly seen both in Iona and across it.

The applicant makes numerous references to intervening trees and buildings as screening parts of the proposals or otherwise reducing its impact. As noted in our [Managing Change: Setting](#) guidance, vegetation cannot necessarily be relied upon as screening as it is subject to felling and seasonal changes.

Historic Environment Scotland – Longmore House, Salisbury Place, Edinburgh, EH9 1SH

Scottish Charity No. **SC045925**

VAT No. **GB 221 8680 15**



Taken together, these aspects of the applicant's assessment downplay both the contribution of the wider setting to the monastery's and the abbey's cultural significance and the impacts of the proposals.

The applicant's assessment of the impacts on Cladh an Diseart is not clear. They seem to place an emphasis on the visitor experience of the asset group, noting, correctly, that there is no access provided to it. This appears to confuse access with the impacts on significance and/or setting. In this case its setting relies on its remoteness and separation from the rest of the monastery.

The applicant suggests that the proposals would not affect the relationship between Iona and Ireland because the latter cannot be seen and notes that views towards the abbey, and back from it towards Mull, would not be affected.

In conclusion, the applicant predicts a low adverse magnitude of impact, resulting in a moderate adverse significance of effect for both the scheduled monument and listed building, which is significant in EIA terms. Whilst we agree that the overall predicted significant EIA effect is appropriate, we disagree with the assessment of the setting of both assets and the conclusions about the proposals' potential impacts in relation to compliance with the National Marine Plan (NMP) and National Planning Framework 4 (NPF4).

The applicant has concluded that any difference in the effect between the two layouts (composed of either 91 and 144 turbines) on the setting of the scheduled monument would be limited, and that identifying any difference is challenging due to the distance between the proposals and the monastery. It seems unlikely that differences in height would be appreciated at this distance, but differences in layout would be perceived, through the spread, density and distribution of turbines, especially for the 144-turbine scheme. The potential impacts of this have not been assessed by the applicant. There is also no discussion of the worst-case scenario in relation to the listed building.

Our Assessment

Impacts on the Setting of St Mary's Abbey, Iona, monastic settlement (SM12968)

The proposals would result in changes to factors of setting that contribute to the cultural significance of the scheduled monument such that the understanding, appreciation and experience of the monument would not be adequately retained.

The information supplied in support of the application indicates that the proposals would be visible in their entirety for most of the ferry crossing from Fionnphort to Baile Mòr. SLVIA Figure 16.2.21 indicates that almost all of the scheme, including the substation, would be visible from Fionnphort as the journey across the Sound of Iona commences. Turbines would fill the empty horizon visible to the south and be framed by topography on either side of the sound. Figure 20 (Appendix 14.3) depicts a similar view from a position much closer to the slipway at Baile Mòr, demonstrating a similar level of impact when arriving on Iona. The currently open, empty horizon to the south would therefore be filled with turbines for the entirety of the ferry journey, undermining the sense of remoteness and separation of the monastery from the surrounding world. This would also disrupt its relationship with the absent Ireland articulated by the empty horizon.

Historic Environment Scotland – Longmore House, Salisbury Place, Edinburgh, EH9 1SH

Scottish Charity No. **SC045925**

VAT No. **GB 221 8680 15**



The proposals would be highly visible in reciprocal views when looking south and returning back from the monastery towards Baile Mòr. The turbines would be visible behind the nunnery on approaches to it from the north, detracting from the presence of both McLean's Cross and the nunnery in these views. This would also undermine the relationship between the landing points at Port nam Mairtir and Baile Mòr, and the monastery.

Cultural Heritage Figure 9 (Appendix 14.3) demonstrates that the proposals would be highly visible in views to the south from Tòrr an Aba. The turbines would appear in the carefully constructed visual relationship between this part of the monastery and Sráid nam Marbh, the Reilig Odhráin, St Oran's Chapel, St Columba's shrine chapel and the high crosses. By being prominently visible on the southern horizon in this location, the turbines would detract from these visual relationships, drawing the eye, while simultaneously disrupting the site's relationship with the absent Ireland on the currently-empty horizon.

Figures 10 and 21 (Appendix 14.3) depict similar levels of visibility in the views south, back along Sráid nam Marbh, and south from St Columba's shrine chapel respectively. As well as demonstrating the impact from these specific key viewpoints, the end of the medieval pilgrimage route and the most holy part of the monastery, they also help illustrate the likely levels of visibility when moving through the monastic complex, appearing in views from the front of the abbey, the high crosses in front of it, boundaries, chapels and routeways, with more turbines, and the substation platform, steadily coming into view as the viewer moves east. The turbines would be a constant presence out across the Sound of Iona, filling the currently empty horizon to the south.

As shown in Figure 11 (Appendix 14.3) the turbines would remain highly visible in views from the road north of the monastery, where they would be framed and accentuated by the abbey and the surrounding topography. They would be visible in views down the sound and out across the sea, towards Ireland, at this point where the entirety of the complex and its constituent parts are perhaps best appreciated. Figure 11a (Appendix 14.3) demonstrates similar impacts from the northern part of the monastery but closer to the shore, which is a good location to appreciate the complex and its relationship with the sea, in particular.

Similar levels of visibility also appear in the important views of the sea and the monastery from Cladh an Diseart, as shown in Figure 23 (Appendix 14.3). The turbines would appear to fill the open horizon to the south. This would undermine the sense of separation and perceived remoteness of the monastery; the sense of the monastery being bounded by the sea; and the evocative absence of Ireland articulated by the empty horizon.

Figure 16 (Appendix 16-4) demonstrates that, from the summit of Dùn Ì, the proposals would be visible in their entirety, dominating the view southwards across Iona on a horizon otherwise empty of any development. Similar impacts would be felt at St Columba's Bay.

By introducing large scale modern development across seaward views, the proposals would significantly detract from the open, maritime character of the island's surroundings and fundamentally alter the monastery's sense of remoteness. Across the monastery, the views southwards over the sea and towards Ireland, its absence laden with meaning, would be



interrupted and compromised, with the proposals filling an expansive area on the southern horizon.

The ability to understand, appreciate, and experience the choice by Columba and his monks to settle on a place at the edge of the ocean, and the edge of their known world would not be retained, nor Columba's deliberate sense of separation from Ireland. The sense of being bounded by the sea was a deliberate choice by St Columba and his followers and is a key part in contributing to the monastery's sense of remoteness and separation from the world.

The proposals would have a significant adverse impact on those factors of setting that contribute to the monument's cultural significance. The relationship between the monastery and its associated sites to the north and south would be undermined. The visual relationship between elements of the monastery would be compromised. The relationship between the monastery and the absent Ireland to the south would be disrupted. The sense of separation and remoteness, defined by the surrounding sea, would be undermined.

Consequently, the monument would not retain an appropriate setting, and the proposals would therefore be inconsistent with the objectives of Policy GEN 6 of Scotland's National Marine Plan (NMP).

These effects would also result in a significant adverse impact on the integrity of the setting of the scheduled monument, as changes to factors of setting that contribute to its cultural significance would mean that the understanding, appreciation and experience of the asset would not be adequately retained. The proposals would therefore fail to avoid significant adverse impacts on the integrity of the asset's setting, contrary to the requirements of Policy 7(h) of NPF4.

Impacts on the Setting of Iona Abbey (LB12310)

The proposed development would also have a significant adverse impact on key aspects of the abbey's setting, and therefore its architectural and historic interest. Whilst not appearing directly in views of the abbey buildings over the crossing or progressing up the route from Baile Mòr, turbines would be a near constant presence in the wider views, taking in the surroundings throughout the journey and when stopping at key points along it, affecting the wider setting through which the abbey is approached. For instance, they would appear over the sea and on the skyline across the open land to the south of the nunnery and from McLean's Cross.

Visible turbines would also affect important views between the abbey and the wider monastic complex. Cultural Heritage Figure 9 (Appendix 14.3) demonstrates that the turbines would appear within views from Tòrr an Aba towards Sráid nam Marbh, Reilig Odhráin, St Oran's Chapel, St Columba's Shrine Chapel and the high crosses. These relationships were later deliberately incorporated into the layout, frontage, and placing of the entrance into the abbey. After the monastery was passed to the reformed Benedictine community, the abbey and the area around its entrance became the visual and spiritual focus of the wider monastic complex, drawing significance from the earlier church and its connection to St Columba. Many of the main features that formed the core of the earlier monastery were directly subsumed into the core of the new complex and were referenced



by the abbey buildings. The presence of turbines within these views would therefore detract from the appreciation and understanding of the relationship between the abbey and the earlier monastic landscape.

Figures 10 and 21 (Appendix 14.3) demonstrate that turbines would be visible in views south from St Columba's Shrine Chapel and back along Sráid nam Marbh. They would also appear in views south from the front of the abbey, the high crosses in front of it, occupying the open southern horizon across the Sound of Iona.

The presence of turbines would adversely affect the abbey's visual prominence within its wider surroundings, including its relationship with the monastery, reciprocal views along the historic pilgrimage route culminating at the abbey, and the open maritime setting and coastal island context, all of which contribute to the understanding, appreciation and experience of the asset. Inward-facing views of the abbey complex, including those experienced between and behind the buildings, within the cloister, and from within the church interior, would remain largely unaffected. Static views towards the front of the abbey from the east would likewise not be disrupted.

The proposed development would therefore have a significant adverse impact on key factors of setting that contribute to the asset's architectural and historic interest and, consequently, its cultural significance.

As such, the proposal would be inconsistent with Policy GEN 6 of Scotland's National Marine Plan, which requires the settings of designated heritage assets to be appropriately protected.

It would also fail to meet the requirements of Policy 7(c) of NPF4, which states that development proposals affecting the setting of a listed building should preserve its character and special architectural or historic interest.

Shared Impacts on the Settings of SM12968 and LB12310

The proposed development would introduce a large-scale development across the currently undeveloped horizon in views experienced during the crossing to and from Iona, along the approach to the monastery and abbey, and in key views within, across and of the wider monastic complex, including reciprocal views between the abbey and the surrounding monastic landscape, where the abbey forms the visual focus. It would also be visible in views towards and out from the core of the religious complex, including its relationship with the pilgrimage route and the crossing to and from Mull. In addition, turbines would be seen in views south across the Sound of Iona, affecting appreciation of the site's coastal and island setting and its relationship with the surrounding seascape, including outward views towards Ireland and western Scotland.

The proposals would become an almost constant presence within the setting of both assets. The turbines would also be substantially out of scale against the scattered domestic-scale settlement in and the open rural character of Iona.

The deliberate sense of separation, seclusion, and remoteness sought by Columba in founding his monastery on Iona would be substantially undermined. Iona's ability to evoke



Columba's world; its spiritual connection to the Christianising of Scotland; Iona's place within Scottish and Irish Gaelic culture; and its place in the emergence of the Scottish Gaelic world – all of which are core to the national importance and cultural significance of the monastery and abbey – would be significantly detrimentally affected by the proposals.

The proposals would also adversely affect the ability to appreciate the development of the monastic complex through time. In important views from the north of the monument, where the relationship between the early medieval vallum, the wider monastic complex and the later abbey can be readily understood, the turbines would become a prominent new and detracting feature.

Taken together, these effects would have a significant adverse impact on the settings of both St Mary's Abbey, Iona Monastic Settlement (SM12968), and Iona Abbey (LB12310), and on the individual and shared cultural significance that they derive from their setting, including as part of a wider historic landscape. The proposals would fail to appropriately protect the settings of these designated heritage assets. Consequently, they would be inconsistent with Policy GEN 6 of Scotland's National Marine Plan.

In relation to the scheduled monument, the proposals would result in significant adverse impacts on the integrity of its setting, with changes to factors of setting that contribute to its cultural significance such that the understanding, appreciation and experience of the asset would not be adequately retained. As such, the proposals would be contrary to Policy 7(h)(ii) of NPF4. In relation to the category A-listed building, the proposals would fail to meet the requirements of Policy 7(c) of NPF4, which states that development proposals affecting the setting of a listed building should preserve its character and special architectural or historic interest.

We therefore **object** to the proposed development as applied for under the Section 36 application and associated marine licence applications.

Consequently, we do not consider that the applications demonstrate compliance with HEP1, as the assessment of the impacts of the proposed development on the setting of both assets does not adequately take account of their breadth and cultural significance. We also do not consider that the proposed development complies with HEP2 or HEP4, as the significant setting impacts identified above would detract from the understanding and enjoyment of these assets and would therefore fail to ensure that these qualities are secured for present and future generations. The proposed development would introduce changes to the assets' context that would not be managed in a way that protects the historic environment.

Oronsay Priory and Cross (SM287)

The monument is the ruins of an Augustinian priory founded either by Aonghus Óg Mac Domhnaill, Lord of Islay, or his son John I, Lord of the Isles, sometime between 1325 and 1353. It comprises a sequence of buildings constructed over the centuries that followed, including a church, cloister, conventual buildings, prior's house, and burial aisles extending into the 1500s, with some further burial enclosures added as late as the 19th century. The priory appears to have steadily fallen into disrepair after the Reformation, with sporadic references suggesting some ongoing religious activity until at least 1624. It was ruinous by

Historic Environment Scotland – Longmore House, Salisbury Place, Edinburgh, EH9 1SH
Scottish Charity No. **SC045925**

VAT No. **GB 221 8680 15**



1695. The Lords of the Isles may have founded the priory here due to an association of St Columba with Colonsay and Oronsay. A tradition that was not recorded until the 1700s suggests that this was believed to be where Columba first landed in Scotland, before travelling on to Iona (other places claim this accolade, but the island's location means this is tenable). The priory was also dedicated to St Columba, while the placename Oronsay is also associated with Oran, one of Columba's relatives and acolytes. This may, however, be a later misinterpretation of its original meaning. It is possible that there was an early medieval monastic community here; however, there is no obvious surviving evidence for this.

Setting

The priory overlooks much of the flatter, more fertile stretches of the southern half of Oronsay, with clear views south across much of Scotland's western seaboard. To the south and west, this land gives way to the wide, open expanse of the Atlantic Ocean. These views are important for understanding Columba's connection with both Ireland and Scotland, as well as the strong maritime foundations of the Lordship of the Isles. Important views include those from the sea towards the priory and the land around it, particularly around Port na Luinge and Port na Ròn, sheltered bays that were no doubt used to access the priory from the sea; and views towards the priory from the east, after crossing The Strand from Colonsay. The Strand is both a historic and current crossing between Colonsay and Oronsay, as is the road to the Priory, which also historically served as a coffin road.

As the only large building complex in its surroundings, the priory would have stood out as a solitary, visible statement, emphasising its religious purpose and reflecting the status of its patrons, the Lords of the Isles. Later farm buildings have been constructed immediately beside the priory and between it and the sea. These largely obscure the sea from view from close to and within the priory and reduce its visibility on approaches towards it from the sea. On approaches from the east, the priory is partly obscured by a row of cottages until the entrance gate is reached. However, the overall cluster of buildings is relatively modest in scale, and the tops of the priory's gables remain clear on the skyline in most inward views.

Dùn Domhnuill, a fort on Beinn Oronsay, may have been reused by the Lord of the Isles during the period when the priory was in use, with the relationship between the two sites therefore likely to have been of some significance.

Key factors of the monument's setting are therefore:

- Landward views towards it from the west
- Views towards it from the east
- Views out from it across Oronsay and Scotland's western seaboard.
- Views across the monument from Dùn Dòmhnuaill

The EIA Assessment

The monument's setting is poorly defined in the applicant's assessment given in paragraphs 62–66 of Appendix 14.3. The applicant accurately identifies that the monument progressively comes into view as it is approached from the east and that views out from it across the south-west, including towards Ireland, are important. However, there is no analysis of the historical context of the priory as a key religious site within the Lordship of



the Isles, or how this can be understood, appreciated, and experienced in its setting. This limited definition of the monument's setting means that the applicant's assessment of impact is correspondingly limited.

The applicant suggests that the existing farm buildings, west of the priory, surround it, and that they would obscure the visibility of the turbines. They state that the white render of Oronsay House draws the eye away from the priory buildings, which blend into the surrounding rocky landscape. They also state that the views from Beinn Oronsay do not reflect any functional or associative connection with the priory. We disagree with this assessment.

Our Assessment

The applicant's visualisations from the location of the MacDuffie Cross (Figure 19) and the access track (Figure 18) demonstrate that the proposals would appear prominently behind the monument in views towards it from the east, particularly from the important historic and modern approaches towards the priory. The turbines would appear prominent in views above the priory buildings when viewed from a distance, although those behind the priory would become increasingly obscured by the buildings closer to the monument.

The southern extent of the wind farm would, however, be consistently visible to the left of the priory on approaches to it from the east.

The result is that, whilst the wind farm would distract from and undermine the priory's presence in more distant views from the main landward approach, the effect on the monument's more immediate setting, where the complex of priory buildings can be fully understood, appreciated, and experienced, would be minimal.

Figure 4 depicts the view across the monument from an elevated position on Beinn Oronsay, approximately 300 m west of Dùn Dòmhnuaill. Given the distance and changes in elevation, it does not depict the impact on the important views of the priory from the fort, but it is a helpful indication. This visualisation suggests that most of the windfarm would appear on the horizon behind the priory in the views from Dùn Dòmhnuaill. While the proposals would distract from these views, the ability to understand, appreciate, and experience this relationship would remain broadly appreciable. Landward approaches from the sea would be unaffected.

Overall, the wind farm would be a constant presence in important key views associated with the priory, appearing either to one side of the priory or above the silhouette of the priory gables in views from further away, including from along the main approach. However, the priory and surrounding cluster of buildings, standing alone on the island plain, would remain the main focus of these views. Furthermore, the intimacy of the monument and its setting would be retained once close to and within the priory. On balance, whilst there would be significant impacts on some aspects of the priory's setting, the overall setting would be adequately protected.

Beinn a' Chaisteil, promontory fort and associated remains, Islay (SM13213)

The monument is the remains of a substantial promontory fort, occupying a distinctive coastal headland, and series of structures in the adjacent cleft below, situated on the north-

Historic Environment Scotland – Longmore House, Salisbury Place, Edinburgh, EH9 1SH

Scottish Charity No. **SC045925**

VAT No. **GB 221 8680 15**



west coast of Islay. The visible remains reflect at least two, and probably more, phases of use, the earliest of which is likely to be later prehistoric in origin (between 500 BC and AD 500).

The headland is surrounded by steep sea cliffs on all but the landward side, where the slopes descend to lower ground inland. The denuded remains of a single stone wall run along the landward side, enclosing the headland.

To the west of the headland, enclosed by cliffs on both sides, the land drops down to the sea, first through a cleft in the cliffs and then via a rocky valley. Near the top of the valley, but low enough to be hidden from inland views, a substantial drystone wall cuts across the lower slopes. It incorporates several features, including an impressive lintelled entrance passage. Another group of structures lies further downslope. These include a relatively well-preserved drystone corbelled building that appears to be of some age, together with a much more recent stone built hut. The massive form of the enclosure wall and the older corbelled structure are highly unusual, with few to no direct parallels.

As a result of this, and because of its evocative setting, the monument is highly enigmatic. Its date, use and function remain unclear, with interpretations comparing it to Iron Age monumental architecture, early medieval monastic hermit cells similar to those found along the western seaboard of Scotland and Ireland, and medieval or later seasonal houses more generally associated with the Outer Hebrides. While aspects of the site support each of these interpretations, none wholly explain all its features. Although the monument may represent multiple phases of occupation and use, it remains difficult to interpret with confidence.

Setting

The fort's construction on a prominent rocky headland provided an easily defended and/or enclosed position. Its positioning would have afforded commanding views across much of the western part of Islay, across an expansive moorland plain. Dun Bheolain is visible to the south, and both sites may have been in contemporary use. The relatively flat, lower-lying land stretching eastwards from the monument contains a number of broadly contemporary settlement and farming sites, indicative of communities living and working across this area during prehistory. The fort overlooks much of this land and consequently reciprocal views between the fort and these lower-lying areas, including the two nearby sheltered bays, are a key factor of its setting.

The settlement in the gully is hidden from inland views. Cliffs enclose it on both sides and the land drops to the sea through a series of cliffs and gullies. Together, the enclosing cliffs and the fall in ground towards the coast frame views of the sea beyond, particularly on entering the gully through the cleft in the cliffs above. The seclusion from inland, surrounding cliffs, rugged topography and drop to the coast make the sea an intimate yet dramatic part of its setting, reinforcing its sense of isolation. This setting is key to its interpretation and informs the various interpretations listed above.

The EIA Assessment

The applicant has identified various significant aspects of the monument's setting, including wide-ranging views out to sea, its inaccessibility, and its intervisibility with Dun Bheolain.

Historic Environment Scotland – Longmore House, Salisbury Place, Edinburgh, EH9 1SH

Scottish Charity No. **SC045925**

VAT No. **GB 221 8680 15**



However, they suggest that the monument's setting is limited largely to a "*generalised perception that this is a remote place that accords with modern perceptions of remoteness,*" and that "*little more can be determined than the fact that location of a promontory fort suggests past occupation and use*" (para. 84, Appendix 14.3). We disagree with this. The setting of the fort clearly demonstrates its strategic importance overlooking various parts of western Islay and its coast. The secluded, isolated nature of the remains situated within the gully can also be readily understood, appreciated, and experienced, despite the lack of certainty about the site's interpretation.

The applicant suggests that the importance of the sea to the monastic way of life is unclear and that any relationship with the sea can only be considered a general association, and peripheral to how the monument is understood, appreciated, and experienced. We also disagree with this. Evidence to support the importance of isolation and connections with the sea to monastic ways of life is detailed in our comments on Iona.

The applicant concludes that the proposals would not affect any understanding of the asset 'or its place in the landscape'.

The applicant identifies little difference in the impacts between the two turbine layouts, suggesting that the scale and prominence of the larger turbines in the 91-turbine layout would be offset by the effects of the denser arrangement of smaller turbines in the 144-turbine layout. Consequently, the applicant concludes that there would be no material difference in impact between the two layouts. We disagree with this. The comparative wirelines in Figure 5f (Appendix 14.3) suggest that the perceived difference in height between the turbines would be negligible at these distances, and consequently the denser layout of the 144-turbine scheme would have a greater impact.

Our Assessment

The proposals would be visible in their entirety from the fort on the summit of Beinn a'Chaisteil and would also be likely to be visible behind it in views from parts of lower inland ground. This would detract from the fort's perceived elevation and from what that elevated position may have signified about those occupying it. However, the turbines would not be overly prominent, and the majority of the panoramic view out from the fort would be unaffected. Any impacts on the fort's setting would therefore be unlikely to be significant.

Visualisations have been provided to show the proposals in seaward views from various points within the gully. Those from the lower-lying structures situated within the gully indicate that almost the entire seaward horizon would be filled with turbines. The visualisation from near the top of the cleft shows that turbines would be framed by the cliffs on either side.

While the presence of the turbines on the seaward horizon from lower down in the gully would affect the sense of seclusion that is such an important part of this monument's setting, there would be little to focus attention directly towards them, which would soften the level of impact overall.

The viewpoint above the gully on its landward side indicates that at this pinch point, where the sense of seclusion from the land is perhaps the most apparent, the turbines would be



framed by the cliffs, focusing attention directly on them. This would begin to undermine the ability to experience, appreciate and understand this element of the monument's setting, but the impacts would not be significant enough to warrant objection.

While the presence of turbines on the seaward horizon when viewed from lower down in the gully would affect the sense of seclusion that is such an important part of the monument's setting, they would be located at some distance and there would be little to focus attention directly on them. This would moderate the overall level of impact.

While the presence of the turbines on the seaward horizon would affect this sense of seclusion, it would still be readily understood, appreciated, and experienced through the high enclosing headlands flanking the site. This aspect would also be readily understood when looking towards the monument from the sea. The monument would therefore retain an appropriate setting for both its Iron Age features and the later remains in the gully below.

Dun Bheolain, fort, Islay (SM13214)

The monument is the remains of a substantial promontory fort occupying a distinctive coastal headland on the north-west coast of Islay. The visible remains reflect two or more phases of use, the earliest of which is likely to be Iron Age in origin (800 BC – AD 500). The headland is surrounded by steep sea cliffs on all but the south-east (landward) side, which rises towards the end of the headland in two distinct terraces. Two walls run across the two narrowest parts of the headland. The fort's interior comprises three distinct areas between summits and terraces. Several hollows and platforms are likely to represent the remains of dwellings or structures. Dun Bheolain is the largest promontory fort on Islay.

Setting

Like many of its type in Argyll, the fort occupies a distinctive coastal promontory with a seaward outlook to the west and excellent views southwards over the south-west coast of Islay. It lies very close to a neighbouring site, Dun nan Nighean, which occupies a smaller promontory immediately to the north. The monument has been constructed to demonstrate the power and influence of its inhabitants, while allowing them to exert a degree of control over its surroundings. Its construction on a dramatic and distinctive rocky headland provides an easily defended position, which establishes the fort as an obvious focal point. On approaches from the south, the headland's distinctive profile is visible for several kilometres. The fort's positioning would have allowed its inhabitants commanding views across much of the western part of Islay, which includes areas of good farmland, and the seaways along the coastline. Reciprocal views between the fort and these lower-lying areas and the seaways along the coastline are therefore a key factor of its setting.

The EIA Assessment

The applicant notes the headland's distinctive profile and accurately lays out the setting of the monument. Regarding the likely setting impacts, the applicant suggests that the views north from the monument, across Dun nan Nighean and Tràigh Bhàn towards Beinn a' Chaisteil, would be unaffected, with views towards the monument also unaffected. This is not supported by the supplied visualisations, which demonstrate that both of these key factors of setting would be affected (Figures 7 and 16, Appendix 14.3). The applicant also states that the proposals would not detract from the monument's prominence within its surroundings. Despite concluding that key factors of setting would be unaffected, the

Historic Environment Scotland – Longmore House, Salisbury Place, Edinburgh, EH9 1SH

Scottish Charity No. **SC045925**

VAT No. **GB 221 8680 15**

applicant concludes that the proposals would result in a major adverse significance of effect on the monument.

Regarding the possible difference in impacts between the two turbine layouts, the applicant takes a similar view to that given for Beinn a' Chaisteil, suggesting that the scale and prominence of the larger turbines in the 91-turbine layout would be balanced by the impacts of a denser layout of smaller turbines in the 144-turbine layout and that, consequently, there would be no difference in impact depending on layout. While the comparative wirelines for views out from the monument (Figure 7f, Appendix 14.3) suggest a broadly similar impact from both layouts, this is not the case in views towards the monument from the south. Here, the applicant suggests that the lower-lying land to the west of the monument would be insufficient to screen the smaller turbines of the 144-turbine layout from view, resulting in a similar impact to the 91-turbine scheme. However, Figure 16a (Appendix 14.3) demonstrates that more turbines would be seen immediately to the west of the monument in the 91-turbine layout.

Our Assessment

The full extent of the wind farm would be visible in views out from the monument. In views north across Dun nan Nighean and Tràigh Bhàn towards Beinn a' Chaisteil, the turbines would be highly visible; however, the proposals would not be directly behind these features and would, in terms of scale, appear recessive next to the dramatic landforms of Islay's west coast. The impact of the proposals on this key factor of setting would therefore be fairly limited. Views inland from the monument would be unaffected.

Figure 16 shows the turbines occupying the western horizon immediately adjacent to Dun Bheolain in views from the coastal plain to the south, detracting to some extent from the headland's distinctive, prominent profile. Overall, however, the proposals would not compete with the headland's considerable scale relative to its surroundings and, consequently, the monument's dominance over these surroundings. The 91-turbine layout would have a greater effect in this regard, but this still would not undermine this key factor of setting such that it cannot be adequately understood, appreciated and experienced.

Whilst the wind farm would be visible out to sea, the relationship with views of, and whilst travelling along, passageways along Islay's coastline would be largely unaffected.

Dubh Artach Lighthouse (LB12320)

The category A-listed lighthouse dates from the 1860s-70s and was built on a skerry in the Atlantic Ocean. Designed by David and Thomas Stevenson, it was constructed in response to continued shipwrecks in the area. Its special architectural and historic interest derives primarily from its industrial character, engineering ingenuity, visual prominence, and remote setting.

We previously advised that the proposed development could adversely affect the lighthouse's setting, and therefore its cultural significance, by reducing its prominence, particularly where views are interrupted by turbines during the day and where turbine lighting dilutes the effectiveness of the lighthouse light at night.



Based on their assessment, the applicant has concluded that the proposed development would be ‘significant’ in EIA terms; *“As such, this change to the setting will result in a medium adverse magnitude of change. For an asset of high sensitivity, this would give rise to a major adverse effect, which is significant in EIA terms”* (page 146 of Appendix 14.3). The justification for this is outlined in the preceding paragraphs beginning at 1.6.2.3.

The assessment of impacts on Dubh Artach Lighthouse does not explicitly refer to the three factors of setting or clearly explain how the proposed development would affect understanding, appreciation and experience of the asset. It also does not address how turbine lighting would affect its setting. Whilst we acknowledge that “night-time effects” on the lighthouse are briefly discussed on page 108 of the Seascape, Landscape and Visual Impact Assessment (Chapter 16), assessment of setting is distinct from the SLVIA, and predicted SLVIA effects cannot be assumed to result in corresponding setting impacts.

We also note that the assessment does not refer to the relationship between the lighthouse and the small tidal island of Erraid located off the southwest coast of Mull. This island acted as the shore station for both Dubh Artach and Skerryvore (LB17849). It contains a Category C-listed observatory (LB12309) which would have provided visual communication to the respective lighthouses.

We consider the visual and functional relationship between Dhu Artach and Erraid forms part of the setting of the lighthouse. Whilst this factor of setting does not form part of the assessment by the applicant, we do not consider it would alter the conclusion provided.

Despite the points above, the EIA Report contains sufficient written and visual information for us to conclude that, while the proposed development would result in a notable change to the setting of the lighthouse, it would not significantly affect our understanding, appreciation, or experience of the lighthouse and its cultural significance to a degree that would be contrary to Policy GEN 6 of the National Marine Plan, or Policy 7(c) of NPF4.

Historic Environment Scotland
11 September 2026

Maritime & Coastguard Agency



Maritime &
Coastguard
Agency

[Redacted]

Maritime and Coastguard Agency
UK Technical Services Navigation
105 Commercial Road
Southampton
SO15 1EG

www.gov.uk/mca
14th August 2026

Licensing Operations Team,
Marine Directorate,
Scottish Government,
Marine Laboratory,
Aberdeen.
AB11 9DB.

By email to MD.MarineRenewables@gov.scot

Dear Marine Directorate,

APPLICATION FOR CONSENT UNDER SECTION 36 OF THE ELECTRICITY ACT 1989 AND MARINE LICENCES UNDER PART 4 OF THE MARINE (SCOTLAND) ACT 2010 AND PART 4 OF THE MARINE AND COASTAL ACCESS ACT 2009 FROM MACHAIRWIND LIMITED TO CONSTRUCT AND OPERATE THE MACHAIRWIND OFFSHORE WIND FARM.

Thank you for the opportunity to comment on the applications for consent under Section 36 of the Electricity Act 1989 and marine licences under the Marine (Scotland) Act 2010 for the MachairWind Offshore Wind Farm.

The Maritime and Coastguard Agency (MCA) is an Executive Agency of the Department for Transport and is responsible throughout the UK for implementing and developing the UK Government's maritime safety and environmental protection policy. This includes co-ordinating maritime Search and Rescue (SAR) through His Majesty's Coastguard 24 hours a day and checking that ships meet UK and international safety rules. The MCA works to prevent the loss of lives at the coast and at sea, to ensure that vessels are safe, and to prevent coastal pollution. The UK Technical Services Navigation Branch is responsible for UK radiocommunication and navigation policy. This primarily covers SOLAS Convention (Safety of Life at Sea Convention 1974, as amended) Chapters IV and V; the COLREG Convention (International Regulations for Preventing Collisions at Sea 1972, as amended); and the ITU Convention (International Telecommunications Convention 1932, as amended).

The Navigation Risk Assessment (NRA) and the shipping and navigation elements of the Environmental Impact Assessment Report have been reviewed, and we would like to comment as follows:

Navigation Risk Assessment (NRA)

Anatec Limited has undertaken a detailed NRA in accordance with MCA guidance (MGN 654) and NRA risk assessment methodology. This NRA, which is presented in Volume 3c, Appendix 13.1, informs the Shipping and Navigation chapter of the EIA presented in Volume 2, Chapter 13.

We are satisfied that appropriate traffic data has been collected in accordance with MGN 654, which includes two 14-day marine vessel traffic surveys. We note from Table 5-1 that full surveys were carried out in winter 2023 (1st December – 16th December) and summer 2024 (16th August – 31st August). It is further noted however, that the full traffic survey for winter falls outside of the 2-year period of validity. In discussion with the Project and as captured in section 4 of the NRA, it was agreed that a further winter survey of 6 days in January 2025 combined with additional AIS data from 2024-2025 along with the original 14-day compliant survey, would be sufficient to represent traffic movements for detailed analysis. MCA continue to assess each project on a case-by-case basis and on this occasion, we are content with the additional data provided. This does not set precedent for future projects.

We welcome the work the project has done with stakeholders in regard to concerns raised over the Dubh Artach Lighthouse. The production of the Technical Note in Appendix 15.2 and the changes to the Red Line Boundary with continued engagement with Northern lighthouse Board (NLB), are welcomed and we are now content that sufficient modifications have been made to bring navigation risk to As Low as Reasonably Practicable (ALARP) for the new considered boundary.

The MCA is content that the hazard log presented in Appendix B, Table B.1 of the NRA is a reasonable and proportional assessment of the risks. A completed MGN 654 Checklist has also been provided in Annex A, Table A.1 as part of the NRA, and we are satisfied that all recommendations have been addressed.

It is noted that some of the older studies carried out by the MCA regarding Navigation, Communication, and Position Fixing Equipment are referred to in Section 13 of the NRA. These are supported by other more recent studies which is welcomed. There may be additional benefit in referring to more recent helicopter trials and documents written by the MCA in 2019, titled: “MCA report following aviation trials and exercises in relation to offshore windfarms” and “MCA report following aviation trials at Hornsea Project 1 windfarm”. However, we are content with the conclusions of the impact on navigation, communication and position fixing equipment presented by the applicant.

Emergency Response and Search and Rescue

A SAR checklist based on the requirements in MGN 654 Annex 5 will need to be completed in agreement with MCA before construction starts. This will include the requirement for an approved Emergency Response Co-operation Plan (ERCoP) and will be incorporated as a condition of the Marine Licence.

During SAR discussions, particular consideration will need to be given to the implications of the site size and location. As there are various possible scenarios regarding the final layout of the array at MachairWind as stated in paragraph 67 of the NRA and as discussed in Chapter 3: Project Description, it would be beneficial for the applicant to confirm the final build out scenario as early in these SAR discussions as possible.

Attention should be paid to the level of radar surveillance, AIS and shore-based VHF radio coverage and give due consideration for appropriate mitigation such as radar, AIS receivers and in-field, Marine Band VHF radio communications aerial(s) (VHF voice with Digital Selective Calling (DSC)) that can cover the entire wind farm sites and their surrounding areas.

Cumulative Impacts

A Cumulative Effects Assessment (CEA) has been made based on existing and proposed developments in the study area as explained in Chapter 5: EIA Methodology and Sections 3 and 15 of the NRA. We welcome Anatec’s note in section 3.3 of the NRA highlighting that the tiering system

applied in the NRA does differ from the chapter 5 methodology. We are content however that the tiering applied in the NRA is specific and relevant for shipping and navigation and have no objections regarding its inclusion.

The main commercial routes and those with potential for deviations have also been identified. 12 routes are highlighted and presented in Table 11-1 of the NRA. Expected deviations are also represented, with 3 routes being identified and presented in figure 14.1. We are content with this approach to the CEA at this stage.

Layout Design

The turbine layout design will require MCA and Northern Lighthouse Board (NLB) approval prior to construction to minimise the risks to surface vessels, including rescue boats, and search and rescue aircraft operating within the site. Ongoing engagement with NLB regarding the safe access to Dubh Artach lighthouse is encouraged going forward.

The MCA will seek to ensure all structures are aligned in straight rows and columns with a minimum of two lines of orientation. Further advice will be provided to the project once the layout discussions have started.

Marking, Lighting and Construction Programme

The MCA will seek to ensure the turbine numbering system follows a 'spreadsheet' principle and is consistent with other windfarms in the UK. All lighting and marking arrangements will need to be agreed with the MCA and the NLB. The MCA requires all aviation lighting to be visible 360° and compatible with night vision imaging systems, as detailed in CAP 764 and MGN 654 Annex 5. We would also expect to see some form of linear progression of the construction programme avoiding disparate construction sites across the development area, and the consent needs to include the requirement for an agreed construction plan to be in place ahead of any works commencing.

Wet Storage

It is noted from the non-technical summary and project description that MachairWind will be utilising fixed bottom structures in the final design of the wind farm. Therefore, storage of floating structures is not expected. However, as a reminder to the developer regarding any storing of components on the seabed within the array area or export cable corridor the MCA will need to be informed of materials to be stored and made aware of any that will exceed a 5% reduction in surrounding depth referenced to Chart Datum.

Hydrographic Surveys

MGN 654 requires that hydrographic surveys should fulfil the requirements of the International Hydrographic Organisation (IHO) Order 1a standard, with the final data supplied as a digital full density data set, and survey report to the MCA Hydrography Manager. Further information can be found in MGN 654 Annex 4 supporting document titled 'Hydrographic Guidelines for Offshore Developers', available on our website: <https://www.gov.uk/guidance/offshore-renewable-energy-installations-impact-on-shipping>. This includes surveys during the pre-construction, post-construction and post-decommissioning stages. We would like to highlight the need to provide the data in either GSF or CARIS format and that Total Vertical and Horizontal Uncertainty (TVU & THU) calculations must be provided.

Cable Routes

We note from Chapter 1: Introduction, that there was a delay in confirming grid connection. Therefore, separate consent will be sought for the Export Cable Corridor (ECC). However as stated in Chapter 13: Shipping and Navigation, the Wind Farm Development Area (WDA) will be considered which

includes the following infrastructure: *‘Wind Turbine Generators (WTG), Offshore Substation Platforms (OSP) and associated fixed foundations and scour protection, inter-array cables (IACs), OSP link cables, the portion of the offshore export cable located within the WDA and associated cable protection’.*

For the WDA it is noted in Appendix 5: Mitigation and Commitments Register (as Mitigation M-8) that a Cable Burial Risk Assessment (CBRA) is to be carried out and a cable plan (CaP) produced. Any consented cable protection works must ensure existing and future safe navigation is not compromised. The MCA would accept a maximum of 5% reduction in surrounding depth referenced to Chart Datum. We welcome acknowledgment of this in Paragraph 300 of the NRA.

We note from Chapter 3 Project Description that High Voltage Alternating Current (HVAC) transmission infrastructure will be used for the Inter-array Cables (IACs). Therefore, a pre-construction compass deviation study will not be required.

We further note from Chapter 3, that High Voltage Direct Current (HVDC) Infrastructure may be used for export cables. We would like to remind the applicant that in the case of HVDC installation, consideration must be given to the effect of electromagnetic deviation on ships' compasses. The MCA would be willing to accept a three-degree deviation for 95% of the cable route. For the remaining 5% of the cable route no more than five degrees will be attained. If an HVDC cable is being used, we would expect the applicant to do a desk based compass deviation study based on the specifications of the cable lay proposed and assess the effect of EMF on ship's compasses. MCA may request for a deviation survey post the cable being laid; this will confirm conformity with the consent condition. The developer should then provide this data to UKHO via a hydrographic note (H102), as they may want a precautionary notation on the appropriate Admiralty Charts (actions at a later stage depending upon the desk-based study and post installation deviation survey).

Safety Zones

The requirement and use of safety zones have been detailed in the application. Specifically in section 3.6.13 of the Project Description. They are also listed as mitigation measure M-23 in table 1.1 of Appendix 5, in Table 13.8 Chapter 13 and in Table 17.1 (embedded mitigations) of the NRA. MCA supports the use of safety zones and will comment on the safety zone application once submitted, as a statutory consultee.

Liaison with local MCA Marine Office

The applicant should be reminded that their contractors and subcontractors must have the required certification for all vessel operations, and early engagement with the local MCA Marine Office should be undertaken where necessary to ensure there are no issues with regards to survey and inspections, towage, and safety requirements. Various additional certificates including a load line exemption for any floating turbine platforms will be required prior to any towage to site and the applicant must ensure any ballast water requirements are addressed.

Embedded Mitigation

We have the following comments on the proposed risk controls in section 17, Table 17.1 of the NRA:

1. Cable Burial Risk Assessment;
 - In case of damage to, or destruction or decay of, the authorised project seaward of MHWS or any part thereof, excluding the exposure of cables, notification must be issued to MCA, NLB, the Kingfisher Information Service of Seafish and the UKHO within 24 hours of becoming aware.

- In case of exposure of cables on or above the seabed, the undertaker must within three days following identification of a potential cable exposure, notify mariners and inform Kingfisher Information Service of the location and extent of exposure. Copies of all notices must be provided to the MCA, NLB, and the UKHO within 5 days.
- The plan must include proposals for monitoring offshore cables including cable protection during the operational lifetime of the authorised scheme which includes a risk-based approach to the management of unburied or shallow buried cables.
- Attention should be paid to cabling routes and where appropriate burial depth for which a Burial Protection Index study should be completed and subject to the traffic volumes, an anchor penetration study may be necessary.

2. Navigational Safety Plan (NSP) and Vessel Management Plan (VMP);

- Local notification to mariners must be issued at least 14 days prior to the commencement of the authorised project or any part thereof advising of the start date of each work and the expected vessel routes from the construction ports to the relevant location. They must be updated and reissued at weekly intervals during construction activities and at least 5 days before any planned operations (or otherwise agreed) and maintenance works and supplemented with VHF radio broadcasts agreed with the MCA.
- The Kingfisher Information Service of Seafish, must be informed of details of the vessel routes, timings and locations relating to the construction of the authorised project or any part thereof by email to kingfisher@seafish.co.uk :-
 - i. at least 14 days prior to the commencement of offshore activities, for inclusion in the Kingfisher Fortnightly Bulletin and offshore hazard awareness data, and;
 - ii. as soon as reasonably practicable and no later than 24 hours of completion of all offshore activities.
- Post construction monitoring is required and must include vessel traffic monitoring by automatic identification system for a duration of three consecutive years following the completion of construction of the authorised project. An appropriate report must be submitted to the MCA and NLB at the end of each year of the three-year period.

Conclusion

The comments detailed above are not considered to be blocks to development, but they are provided to highlight any areas which may require further discussion. Subject to the applicant meeting requirements addressed in this letter and meeting the licence conditions, it provides a cautious acceptance of the application for consent.

Yours faithfully,

[Redacted]

[Redacted]

Offshore Renewables Project Lead
Marine Safety and PNT Services

NatureScot

Marine Directorate
Scottish Government
Marine Laboratory
Aberdeen
AB11 9DB

04 September 2026

Our ref: CNS REN OSWF W1 -
MachairWind

Sent by email to MD.MarineRenewables@gov.scot

Dear Marine Directorate,

MACHAIRWIND OFFSHORE WINDFARM

APPLICATION FOR CONSENT UNDER SECTION 36 OF THE ELECTRICITY ACT 1989 AND MARINE LICENCES UNDER THE MARINE (SCOTLAND) ACT AND PART 4 OF THE MARINE AND COASTAL ACCESS ACT 2009 TO CONSTRUCT AND OPERATE THE MACHAIRWIND OFFSHORE WINDFARM

Thank you for consulting us on the Section 36 and Marine Licence Applications submitted by MachairWind Limited for the proposed MachairWind Offshore Windfarm, which is accompanied by an Environmental Impact Assessment (EIA) Report, Report to Inform Appropriate Assessment (RIAA), Report to Inform Marine Protected Areas Assessment and Derogation Case (without prejudice).

Summary of NatureScot advice

Seascape Landscape and Visual Impact Assessment (SLVIA)

The Proposed Development would result in **significant adverse effects on:**

- **Jura National Scenic Area (NSA),**
- **Loch na Keal NSA,**
- **Outer Firth of Lorn Regional Coastal Character Area (RCAA) – an extensive area of distinctive regional coastal character and seascape.**

The effects identified on Nationally Important landscapes, coastal character and seascape would be widespread out to distances of up to 45 km from the proposal.

The proposal would also introduce a new night-time effect of large-scale lighting into a landscape and seascape with an over-riding dark skies quality. We consider this would result in **significant adverse night-time effects on the Jura NSA and the Outer Firth of Lorn RCCA out to distances in excess of 30 km.**

We consider that the extensive, **significant adverse effects identified, would result from the siting of the WDA, and as such the daytime and unmitigated night-time effects arising from the proposal would not be feasibly overcome by siting, design or other mitigation, fundamentally due to the parameters set by the wider W1 Plan Option Area (POA).**

As a result, we advise that the proposal does not meet:

- Scotland's National Marine Plan (NMP) General Policy 7 (GEN7)¹ due to significant adverse effects on Special Landscape Qualities (SLQs) of the Jura NSA and the Loch na Keal NSA; and
- National Planning Framework 4 (NPF4) Policy 11e (ii)² due to the extensive effects on the distinctive Outer Firth of Lorn RCCA and seascape.

Marine mammals

At present, based on the current project design envelope and assessment, we conclude **significant adverse effects from the proposal to minke whale, harbour porpoise, fin whale and humpback whale as a result of injury from piling; harbour porpoise, white-beaked dolphin, white-sided dolphin, bottlenose dolphin, minke whale, harbour seal and grey seal (proposal alone and cumulatively) as well as common dolphin and Risso's dolphin (cumulatively) for disturbance from piling; and to minke whale, humpback whale and fin whale from barrier effects due to underwater noise effects during construction.**

We currently advise a conclusion of Adverse Effect on Site Integrity (AEoSI) in relation to harbour porpoise of the Inner Hebrides and the Minches Special Area of Conservation (SAC).

Additional information is required before we can advise Marine Directorate on a final conclusion of AEoSI in relation to grey seal at Treshnish Isles SAC and harbour seal at South-East Islay Skerries SAC.

In relation to minke whale and basking shark of the Sea of Hebrides nature conservation Marine Protected Area (NCMPA), we advise that there is a potential significant risk of hindering the achievement of the Conservation Objectives of the site.

We advise there could be a detrimental impact on the maintenance of Favourable Conservation Status for harbour porpoise and potentially bottlenose dolphin (Coastal West Scotland and Hebrides MU). This has implications for EPS licensing. We advise that an EPS Licence for injury may be required and an EPS Licence for disturbance will be required.

¹ Scotland's National Marine Plan General Policies - Paragraph 4.28: Development and use that affect National Scenic Areas, National Parks and World Heritage Sites should only be permitted where: It will not adversely affect the integrity of the area or its special qualities for which it has been designated.

² Scotland's National Marine Plan General Policies - Paragraph 4.30: Scottish Planning Policy (SPP) has been superseded by NPF4 and so we interpret this to mean that NPF4 should be considered for effects on the landscapes stated.

We raise concerns that the assessment does not consider in detail designated seal haul-outs and the potential for harassment from repeated disturbance as well as what measures may be required under Section 117 of the Marine (Scotland) Act 2010 (the Act). Four designated seal haul-outs are affected - Oronsay Strand, South Oronsay, Nave Island and Soa (Mull).

Ornithology

At present, we conclude **significant adverse effects to guillemot from the proposal alone and cumulatively to kittiwake** under EIA.

We conclude there will be an **AEoSI from the proposal alone for guillemot at North Colonsay and Western Cliffs Special Protection Area (SPA) and in-combination for kittiwake at Ailsa Craig SPA.**

Further advice

Notwithstanding our conclusions of significant adverse impacts for SLVIA, marine mammals and ornithology as summarised above, we have also fully reviewed the EIA Report and accompanying information and provide advice in the appendices of this letter on all other topics within our remit.

We hope this advice is helpful. For any further advice, please contact [Redacted] ([Redacted] @nature.scot) in the first instance, copying in our marine energy mailbox – marineenergy@nature.scot.

Yours sincerely,

[Redacted]

Head of Marine Energy, Sustainable Coasts and Seas.

Contents

Summary of NatureScot advice.....	1
Appendix A – Policy, proposal, assessment approach and advice on marine physical processes and leatherback turtle.....	6
A.1 Policy context.....	6
A.2 Background	6
A.3 The proposed development.....	7
A.4 Assessment approach	8
A.5 NatureScot advice	8
Appendix B – Seascape Landscape and Visual Impact Assessment (SLVIA).....	9
B.1 Summary of NatureScot advice.....	9
B.2 Background information	9
B.3 Focus of advice	10
B.4 The Applicants’ assessment of effects	10
B.5 NatureScot appraisal of impacts	11
B.6 Cumulative effects.....	16
B.7 Design mitigation	16
B.8 Annex B1	18
Appendix C - Marine mammals.....	20
C.1 EIA summary.....	20
C.2 RIAA Summary.....	21
C.3 NatureScot advice on EPS licencing	21
C.4 Baseline characterisation	21
C.5 Assessment approach.....	23
C.6 NatureScot appraisal – EIA.....	24
C.7 Cumulative effects.....	30
C.8 Mitigation	31
C.9 Monitoring.....	31
C.10 Transboundary and cross-border impacts	31
C.11 NatureScot appraisal – RIAA	31
C.12 Report to Inform Marine Protected Area Assessment.....	39
Appendix D – Offshore ornithology	43
D.1 RIAA summary.....	43
D.2 EIA summary	43
D.3 Baseline characterisation.....	43
D.4 Assessment approach	44
D.5 NatureScot appraisal – RIAA	47
D.6 NatureScot appraisal – EIA.....	51
D.7 Other impact pathways.....	56
D.8 Mitigation.....	61
D.9 Monitoring	62
D.10 Transboundary effects	62
Appendix E – Fish and Shellfish Ecology	63
E.1 Study area.....	64
E.2 Baseline characterisation	64
E.3 Approach to assessment	65
E.4 Impact assessment	67
E.5 Cumulative effects.....	71
E.6 Mitigation	71

E.7 Monitoring.....	73
E.8 Transboundary and cross-border impacts	73
E.9 Report to Inform Marine Protected Area Assessment.....	74
E.10 Report to Inform Appropriate Assessment (RIAA)	76
Appendix F – Benthic ecology	77
F.1 Study area	77
F.2 Baseline characterisation	77
F.3 Assessment approach.....	79
F.4 Impact assessment	79
F.5 Cumulative effects.....	80
F.6 Mitigation	80
F.7 Monitoring.....	81
F.8 Report to Inform Marine Protected Area Assessment.....	82
F.9 Report to Inform Appropriate Assessment (RIAA)	82
Appendix G – Blue Carbon	83
G.1 Study area	83
G.2 Baseline characterisation.....	83
G.3 Assessment approach	84
G.4 Impact assessment.....	84
G.5 Mitigation and monitoring.....	86
Appendix H – Derogation	87
H.1 Without Prejudice Derogation Case	87
H.2 Appendix 1 – Without Prejudice Guillemot Compensation Plan	87

NATURESCOT ADVICE ON MACHAIRWIND OFFSHORE WINDFARM

Appendix A – Policy, proposal, assessment approach and advice on marine physical processes and leatherback turtle

A.1 Policy context

Working within the context of a climate emergency and a biodiversity crisis, we seek to provide advice that is enabling and secures the right development in the right place with most benefit for climate change reduction and that which avoids damage, and where possible, achieves restoration and enhancement of biodiversity.

As a statutory consultee, NatureScot works in support of the Scottish Government’s vision for a Blue Economy with its six outcomes acting as focal points to ensure the marine environment supports ecosystem health, improved livelihoods, economic prosperity, social inclusion and wellbeing.

We provide advice in the spirit of Scottish Government’s ambition for Offshore Wind as outlined in the Sectoral Marine Plan for Offshore Wind Energy (SMP-OWE) published in 2020 and now undergoing an Iterative Plan Review (IPR) (anticipated publication later this year) and the Offshore Wind Policy Statement – 40 GW by 2040³. The SMP-OWE aims to balance the promotion of the sustainable development of offshore wind, whilst protecting and restoring our biodiversity.

We also acknowledge the Energy Act 2023 reforms and the type and delivery of compensation measures either Applicant-led or through a Scottish Marine Recovery Fund, where required. The SMP-OWE aims to balance the promotion of the sustainable development of offshore wind, whilst protecting and restoring our biodiversity.

In response to the new Scottish Biodiversity Strategy to 2045, we support the current work of the Scottish Government in developing National Marine Plan 2, considering a new policy direction of nature positive requirements for marine industries, including Offshore Wind. We welcome that the Applicant has given positive enhancement some initial consideration, with the submission of a Nature Positive Plan.

A.2 Background

The Applicant proposes to develop an offshore wind farm with fixed turbines, as part of the ScotWind Leasing Round in the W1 Plan Option Area.

The advice in this letter is in relation to the MachairWind Windfarm Development Area (WDA) only. Separate consent applications are to be submitted for the Offshore Export Cable Corridor (ECC) and Onshore Transmission Development Area (OnTDA) in due course.

The rationale for the separate consenting approach has been attributed to delays relating to confirmation of grid connection location. Although it is noted that a whole-proposal (the WDA, Offshore ECC and OnTDA) assessment has been undertaken commensurate with the level of detail available at the time of carrying out the assessment.

³ <https://www.gov.scot/publications/update-2020-offshore-wind-policy-statement-scotlands-offshore-wind-ambition-2/>

We highlight that the Offshore ECC and OnTDA currently lacks a significant amount of detail, and as such the subsequent consent applications for these elements will need to fully address the combined impacts from the proposal as a whole.

A.3 The proposed development

The proposed development is located approximately 12.4 km west of Colonsay and 15 km northwest of Islay, covering a seabed area of approximately 448 km². Water depths in the WDA range from 21.6 m to 81.7 m. The WDA is expected to be capable of exporting around 2 GW and an operational lifespan (from final commissioning) of up to 35 years is anticipated. The proposal follows a Project Design Envelope (PDE) approach and comprises:

- Between 91 and 144 Wind Turbine Generators (WTG's)⁴, on fixed foundations.
- WTG capacity is unstated, but total capacity is expected to be approximately 2 GW.
- A maximum blade tip height of 335 m above Lowest Astronomical Tide (LAT) and a maximum rotor blade diameter of 290 m (based on parameters of the Largest WTG).
- Three types of fixed foundations are under consideration, these include monopiles, jackets on pin piles and jackets on suction buckets.
- Up to two Offshore Substation Platforms (OSPs), with fixed foundations. Foundation types under consideration for the OSP(s) are pin pile jackets, suction bucket jackets and gravity base structures (GBS).
- Maximum piling hammer energies are stated as 6,600 kJ for monopiles and 4,400 kJ for pin piles.
- Inter-array cabling (IAC) linking the WTGs together and to the OSP(s), with a total maximum length of approximately 572 km.
- Up to four OSP link cables (linking OSPs together), with a total maximum length of 272 km and minimum Depth of Lowering of 1 m.
- Up to four HVDC offshore export cables, total length of ECC that could be located wholly in the WDA is 200 km (50 km per cable).
- Cable burial is the preferred method of protection, where practicable a Depth of Lowering (DoL) between 1 m – 2 m will be sought for all offshore cables⁵. The minimum proposed DoL for OSP link cables and Offshore ECC(s) is 1 m.
- Where required proposed external cable protection methods include concrete mattresses, rock placement, rock bags and Nature Inclusive Design options. Cable protection is proposed within proximity to WTGs and OSPs.

The construction phase is expected to take up to five years and the earliest point at which WDA construction could commence is expected to be 2030. It is stated that onshore construction works are expected to commence first, however, onshore works are subject to separate consent application(s).

⁴ The PDE includes between 91 of the largest (max. 335 m blade tip height and 290 m rotor diameter) and 144 of the smallest (max. 280 m blade tip height and 236 m rotor diameter) WTGs. The non-technical summary (Section 3.3) explains that the total number of WTGs is dependent on WTG generating capacity, which is yet to be determined.

⁵ As per Table 3.1, where practicable, DoLs of 1 m to 2 m will be sought for all offshore cable types. This is expected to vary by situation, and up to 3 m may be required in some areas whereas DoLs of 0.3 m may be used for IACs in rocky conditions.

The operational phase is anticipated to be 35 years; this will include a programme of maintenance. Decommissioning is briefly addressed in Section 3.6.16 (Chapter 3, Project Description). We advise that that development of a Decommissioning Plan / Programme should be informed by current requirements and predicted on full removal of all infrastructure in line with current policy⁶.

A.4 Assessment approach

The Applicant has largely followed standard EIA and HRA processes as well as our pre-application advice and guidance. Information contained within the Offshore EIA Report, RIAA and Report to Inform Marine Protected Areas Assessment and has been well laid out, which has aided our review and understanding of the information provided within the application, for which we thank the Applicant.

A.4.1 Significance matrices

In the past, we have noticed a tendency for offshore wind farm EIA Reports to include descriptions of sensitivity and magnitude scoring, as well as significance matrix tables, that are weighted towards negligible outcomes. This results in conclusions reached in impact assessments that are likely to be underplaying impacts. However, it is very welcome the approach taken for this application.

There are some instances where we do not agree with the negligible magnitude scoring, which by changing to low would lead to a moderate significance overall. In these instances, using our expert judgement, we are content that the overall impact is not significant in EIA terms – we have detailed this in our advice in the relevant appendices.

A.5 NatureScot advice

As noted in the cover letter, we have provided our detailed receptor-specific advice within the appendices of this letter. Our advice on the assessment of impacts to the marine physical environment and leatherback turtles is provided below.

A.5.1 Marine physical environment

We have reviewed the EIA Report with respect to the marine physical environment (Chapter 7) and are content that all relevant impacts have been identified and assessed. The assessment concludes no significant impacts alone or cumulatively, which we agree with.

A.5.2 Leatherback turtle

The assessment for leatherback turtle is included within Chapter 10 of the EIA Report. As set out in Table 10.2, the number of turtles recorded during the survey campaign has been clarified following Scoping, with confirmation that a single individual was recorded in 2022 within the WDA.

Appendix 10.2 (Marine Mammals and Leatherback Turtle Baseline) discusses the sensitivity of leatherback turtle and there appears to be some discrepancies in the scores assigned in Section 9 (Appendix 10.2) and to those detailed in Table 10.84 (Chapter 10). However, this does not change the Applicants' overall conclusions, that there will be no significant effects to leatherback turtle from the proposal alone or cumulatively, which we agree with.

⁶ <https://www.gov.scot/publications/offshore-renewable-energy-decommissioning-guidance-scottish-waters/>

NATURESCOT ADVICE ON MACHAIRWIND OFFSHORE WINDFARM

Appendix B – Seascape Landscape and Visual Impact Assessment (SLVIA)

B.1 Summary of NatureScot advice

The Proposed Development would result in **significant adverse effects on:**

- **Jura National Scenic Area (NSA)**
- **Loch na Keal NSA and,**
- **Outer Firth of Lorn Regional Coastal Character Area (RCAA) – an extensive area of distinctive regional coastal character and seascape.**

The effects identified on Nationally Important landscapes, coastal character and seascape would be widespread out to distances of up to 45 km from the proposal.

The proposal would introduce a new night-time effect of large-scale lighting into a landscape and seascape with an over-riding dark skies quality. We consider this would result in significant adverse night-time effects on the Jura NSA and the Outer Firth of Lorn RCAA out to distances in excess of 30 km.

We consider that the extensive, significant adverse effects identified, would result from the siting of the WDA, and as such the daytime and unmitigated night-time effects arising from the proposal would not be feasibly overcome by siting, design or other mitigation, fundamentally due to the parameters set by the wider W1 Plan Option Area (POA).

As a result, we advise that the proposal does not meet:

- Scotland's National Marine Plan (NMP) General Policy 7 (GEN7)⁷ due to significant adverse effects on Special Landscape Qualities (SLQs) of the Jura NSA and the Loch na Keal NSA; and
- National Planning Framework 4 (NPF4) Policy 11e (ii)⁸ due to the extensive effects on the distinctive Outer Firth of Lorn RCAA and seascape.

B.2 Background information

The proposal would be located within the W1 POA, approximately 12.4 km west of the islands of Colonsay and Oronsay, 15 km north-west of Islay, 20 km south-west of Mull and Iona, and 30 km west of Jura.

There are two designs included within the PDE to enable the proposal to achieve a 2 GW scheme - 91 turbines at 335 m and 144 turbines at 280 m. For the SLVIA, the proposal has been assessed on a WCS, which has been selected as the 91 turbines at 335 m maximum blade tip.

⁷ Scotland's National Marine Plan General Policies - Paragraph 4.28: Development and use that affect National Scenic Areas, National Parks and World Heritage Sites should only be permitted where: It will not adversely affect the integrity of the area or its special qualities for which it has been designated.

⁸ Scotland's National Marine Plan General Policies - Paragraph 4.30: Scottish Planning Policy (SPP) has been superseded by NPF4 and so we interpret this to mean that NPF4 should be considered for effects on the landscapes stated.

As the turbines would be over 150 m in height, visible aviation lighting would be required in line with the Civil Aviation Authority (CAA) Air Navigation Order 2016.

There are no operational onshore or offshore wind energy developments within the 60 km radius study area.

B.3 Focus of advice

Our approach to advising on wind farm applications is to generally focus upon impacts on Scotland's landscapes that could potentially raise issues of national interest. This advice focuses on the potential for significant adverse effects resulting from the offshore component of the proposal on the Special Landscape Qualities (SLQs) of the Jura NSA, Loch na Keal NSA and Scarba, Lunga and the Garvellachs NSA as well as the seascapes, coastal character and landscapes of the distinctive surrounding coast. This should not be interpreted as meaning there are no other significant landscape effects that need to be considered when determining the application.

Reference has been made to the Jura Wild Land Area (WLA) both within the SLVIA and this advice due to the commonality between some attributes of the WLA qualities and SLQs of the Jura NSA. Given the location of the WLA, around 28 km from the proposal, it was agreed with NatureScot in pre-application discussions that a Wild Land Assessment would not be required.

This advice focuses on impacts from the operational and maintenance phase of the proposal as effects of this phase are long term / permanent and expected to last for a minimum of 35 years.

B.4 The Applicants' assessment of effects

The Applicant has undertaken an assessment of effects on the SLQs of the Jura NSA, Loch na Keal (Mull) NSA and the Scarba, Lunga and the Garvellachs NSA (Appendix 16.2). The assessment concludes that there would be no significant effects on the SLQs of the Loch na Keal (Mull) or the Scarba, Lunga and the Garvellachs NSAs. Significant adverse effects on three SLQs of the Jura NSA have been identified as follows:

- *SLQ 1: The distinctive Paps of Jura;*
- *SLQ 4: Large tracts of wild land; and*
- *SLQ 8: The inaccessible Loch Tarbert.*

The assessment does not provide a conclusion on whether the effects on the Jura NSA would be to a degree where the overall integrity of the NSA would be affected.

The SLVIA reports that significant adverse daytime landscape effects would arise on eight Landscape Character Types (LCT) and eleven Coastal Character Areas (CCA) surrounding the proposal from Colonsay, Oronsay, Islay, Jura, Mull, and Iona out to around 20 km south-east, 40 km east and 25 km north-east from the proposal.

Significant adverse daytime visual effects have been concluded on 16 of the 30 viewpoints from Colonsay, Oronsay, Islay, Jura, Mull, and Iona out to around between 16-39 km from the proposal. In addition, there would be significant effects on visual receptors at settlements and travelling on routes from Colonsay, Oronsay, Islay, Mull, and Iona.

Significant adverse night-time effects would arise on LCTs and CCAs of Colonsay, Oronsay and Islay located within approximately 20 km of the proposal. It was concluded that indirect night-time effects on landscape and coastal character beyond 30 km would not be significant.

Significant adverse night-time effects would arise from 10 viewpoints (VPs 1-5, 9, 13-16 – Islay, the Colonsay-Port Askaig Ferry, Colonsay, and Oronsay) under both the 2000 candela (cd) and 200 cd lighting intensity scenarios, and three viewpoints (VPs 20-22 Mull, Mull-Iona Ferry and Iona) under the 2000 cd scenario alone.

No significant cumulative daytime or night-time landscape and visual effects have been identified in the SLVIA above that of the effects identified from the proposal alone.

B.5 NatureScot appraisal of impacts

Our review of the SLVIA and the Applicants' assessment of effects on the SLQs of the NSAs has identified differences in effects predicted for the Jura NSA and Loch na Keal (Isle of Mull) NSA. In addition, whilst we broadly agree with the effects identified in the SLVIA on coastal character areas, we consider that on aggregate the resulting effect would be extensive on the surrounding coast and seascape at the regional level which is not clearly expressed in the SLVIA. We have therefore deemed it necessary to carry out our own appraisal of effects to interrogate impacts and identify where our conclusions differ to that of the SLVIA. Our appraisal has been informed by site visits.

B.5.1 National Scenic Areas

This section of advice informs the consideration in views from and experience of the proposal from the NSAs and their SLQs. This aspect takes into consideration that impacts on SLQs from offshore projects are generally not physical but experiential and / or perceptual and are not solely limited to how the wind farm appears in views (visual impact).

B.5.1.1 Jura NSA

The Jura NSA is located around 26 km to the south-east of the proposal. It covers the entirety of the south of the island, extending around the northern coastline and hinterland of Loch Tarbert. Southward from the northern extents of Loch Tarbert, the NSA also captures part of the Jura, Scarba, Lunga and the Garvellachs WLA.

A review of the Zone of Theoretical Visibilities (ZTVs) for the proposal show that visibility would be possible from much of the west coast of the NSA between Loch Tarbert and the Allt Bun an Eas (Figure A16.2.1, Appendix 16.2). Visibility would extend outward from the west coast to the south and south-east capturing the Paps of Jura and the surrounding Plateau Moorlands. From the east of the NSA, visibility would largely be precluded by the central elevated, mountainous spine of Jura, with the elevated Plateau Moorlands of the north-eastern tip of Islay inhibiting views from the south-western extents of the NSA.

We are broadly in agreement with the SLVIA / SLQ Assessment in that there would be significant effects on three SLQs of the Jura NSA (SLQ1 - *The distinctive Paps of Jura*, SLQ4 - *Large tracts of wild land*, and SLQ8 - *The inaccessible Loch Tarbert*). Given the location of the proposal, effects would be on experiential and perceptual responses, affecting the perception of remoteness, sense

of naturalness and wildness, and on the '*unparalleled views to the Inner Hebrides*'. These effects would be experienced from an extensive western area of the NSA to include the Plateau Moorlands LCT coastal hinterland, Rugged Mountains LCT (the Paps of Jura), coastline between Loch Tarbert and the Allt Bun an Eas, and the seascape of Loch Tarbert as demonstrated by viewpoints 10 (Loch Tarbert) and 11 (Beinn an Oir).

As such, we are in agreement with the SLVIA, that there would be significant effects on three SLQs of the Jura NSA

- **SLQ1 - *The distinctive Paps of Jura,***
- **SLQ4 - *Large tracts of wild land,* and**
- **SLQ8 - *The inaccessible Loch Tarbert.***

We consider that these effects would be extensive over the western area of the NSA out to around 34 km from the proposal, affecting the perception of remoteness, sense of naturalness and wildness, and the '*unparalleled views to the Inner Hebrides*'.

Contrary to the SLQ assessment, we consider that there would also be a significant effect on:

- **SLQ7 - *An island close yet remote.***

Whilst we agree that there would be no direct physical effect on the long journey required from the mainland to access Jura, the proposal would diminish the perception of remoteness and being '*at the edge*', to a degree which we consider would be significant. From the west coast of the NSA, the presence of the sea is '*all-pervading*'. The surrounding seascape exhibits a high degree of perceived naturalness and wildness, with the island of Colonsay forming the focal point of views from much of the rugged, low-lying coast. The siting of the proposal would affect the inspiring and arresting qualities of the expansive seascape experienced from the NSA (viewpoint 11: Beinn an Oir). It would introduce a large-scale man-made development which would form a new focal point, diminish the scale of the seascape and erode the perception of naturalness, wildness, sense of remoteness and perception of separation from the 'modern world' which can be experienced from the west coast of the NSA (viewpoint 10: Loch Tarbert).

Contrary to the SLVIA we consider that there would be a significant effect on SLQ7 – *An island close yet remote.*

B.5.1.2 Loch na Keal (Isle of Mull) NSA

The Loch na Keal, Isle of Mull NSA is located around 31 km to the north-east of the proposal. The NSA covers the Loch Tuath and Loch na Keal seascape including the islands of Ulva, Gometra, Treshnish, Staffa, numerous other offshore islets, and the surrounding coastline and hinterland. The NSA borders the Central, South and West Mull Local Landscape Area (LLA) to the north, east and south, with an area of the Ben More (Mull) WLA within the NSA to the east.

We are broadly in agreement with the SLVIA / SLQ Assessment that effects on SLQ1, SLQ 2 and SLQ 4 would be not significant. However, contrary to the SLVIA, we consider that effects on:

- **SLQ6 - *A vast, natural world, dwarfing human settlement* and**
- **SLQ7 - *World famous Staffa and Fingal's Cave* would be significant.**

The proposal would be experienced from much of the NSA (Figure 16.2.2, Appendix 16.2), overtopping the peninsula of the Ross of Mull and the island of Iona and its outlying islets (Viewpoints 24, 25 and 26). Whilst the Ross of Mull is out with the NSA boundary, in views from the northern coast and hinterland of the NSA, it provides a natural visual containment to Outer Loch na Keal, with the seascape south-westward perceived as inseparable from and part of the NSA, *‘although covering an extensive area, the seascape, island and coastal landscapes are an indivisible whole. The eye is swept down from the hills, along the coastline of Loch na Keal and out to sea’*. Therefore, we consider that the proposal would affect this experience by introducing a new dominant intrusive very large-scale focal point of man-made development, challenging the *‘sea dominant scene’* and eroding the sense of naturalness and the perception that *‘nature is dominant, impervious to humans and their actions’* of SLQ6.

Contrary to the SLVIA, we consider there would be a significant effect on SLQ6 - A vast, natural world, dwarfing human settlement.

We agree with the SLVIA that the proposal would not affect the physical characteristics of the island of SLQ 7 - *World famous Staffa and Fingal’s Cave*. However, we disagree on effects relating to *‘grand panoramas in all directions’*, and perception of the island as *‘remote’*. The proposal would be clearly visible from Staffa and the wider Treshnish Islands as a new man-made development which would replace Iona as the focal point of panoramic views south and south-west. We consider that distance does not mitigate the magnitude of effects on the panoramic *‘wide and grand vista across the sea’* towards Iona and the Ross of Mull and the experiential quality of remoteness, to a degree where effects can be judged as not significant, as inferred in the SLVIA.

Therefore, contrary to the SLVIA we consider there would be a significant effect on SLQ7 - World famous Staffa and Fingal’s Cave.

B.5.2 Regional Coastal Character and Seascape

The SLVIA identifies significant effects on eleven CCAs spanning from Iona, Mull, Jura, Colonsay, Oronsay and Islay out to around 40 km from the proposal to the east and 30 km north-east and south-east (Figure 16.11, Chapter 16). These have all been attributed a high value and high sensitivity which we agree with. We also broadly agree with the effects identified in the SLVIA on the CCAs assessed and the method of assessment. However, we consider that whilst effects on individual CCAs has been quantified in the SVLIA, we consider this to be at the Local Coastal Character Area (LCCA) scale as opposed to the stated regional scale⁹. **It is our view that establishing coastal character at a regional scale is a key step, appropriate for the proposal given its siting and scale, which we consider is currently absent from the SLVIA.** *‘Irrespective of the scale of characterisation to be the focus of the study, the Regional Coastal Character Area level needs to be established (where it does not yet exist). This may encompass a whole sound or kyle, inner sea loch or firth and allows a wider contextual description of character and inter-visibility’*¹⁰.

⁹ Machair Offshore Wind Farm Appendix 13.3: Coastal Character Baseline and Assessment – Paragraph 1.1

¹⁰ SNH (2017) Guidance on Coastal Character Assessment – Paragraph 4.14

During the process of undertaking comprehensive field work as part of our appraisal of the SLVIA, we have identified an overarching broader scale Coastal Character Area at the regional level. The Regional Coastal Character Area identified shares a broadly similar area to the South Mull / Colonsay / West Jura / Sound of Islay (Seascape Area 23; page 91), also including the south-west Mull and Iona area (Seascape Area 21; page 87) and north-east coast of Islay (Seascape Area 22; Page 89) mapped in the Commissioned Report No. 103 - An assessment of the sensitivity and capacity of the Scottish seascape¹¹ (Seascape Unit Area 23 - South Mull-Colonsay-West Jura-Sound of Islay). The coastal character of this seascape is predominantly Low, Rocky Island Coasts (Type 13; Coastal Character Types Description) with the north-eastern extent comprising Sounds, narrows and islands (Type 9; Coastal Character Types Description). In line with the NatureScot Coastal Character Assessment guidance¹² naming criterion the area will hereinafter be referred to as the Outer Firth of Lorn RCCA.

To establish the baseline seascape, landscape, visual and experiential characteristics which underpin the RCCA, we have drawn on the surrounding seascape units, LCTs, the SLVIA CCAs assessment, and field work. This process has also been informed by the Landscape Institute Technical Guidance Note 02-21¹³ and NatureScot Coastal Character Assessment guidance. The baseline key physical and experiential characteristics of the RCCA have been set out in Annex 1 to this advice.

The containing coast, hinterland and landscape of the Outer Firth of Lorn RCCA comprise of continuously designated landscapes at both the local and national level, including four local landscape areas (North and West Islay, Jura, Knapdale / Melfort, and Central, South and West Mull) and two NSAs (Jura and Scarba, Lunga and the Garvellachs). The nationally important Jura, Scarba, Lunga and the Garvellachs WLA is also captured (Figure 16.13, Chapter 16). The surrounding coast is predominantly undeveloped. Where development is present it is low-key, contained to a few isolated bothies on Jura, and small individual crofts on the south-west coast of Mull, which have negligible influence when experienced from the sea, ferry routes and inter-visible opposite and adjacent island coasts. Taking this and the key underpinning characteristics of the RCCA into consideration, it is our view that the value of the RCCA is high, susceptibility to the type and scale of development proposed is high and overall sensitivity is judged to be high. Conclusions in the SLVIA confirm this judgement (Appendix 16.3; Coastal Character Baseline and Assessment) with a high value and high sensitivity attributed to the component CCAs of the wider RCCA.

The site of the proposal is located just outside the western extent of the Outer Firth of Lorn RCCA and seascape, where it forms part of the wider seaward skyline experienced in surrounding views from a wide geographical extent. The extent of visibility would span from the Firth of Lorn in the

¹¹ SNH Commissioned Report No. 103: An assessment of the sensitivity and capacity of the Scottish seascape in relation to windfarms

¹² SNH (2017) Guidance on Coastal Character Assessment: <https://www.nature.scot/professional-advice/landscape/coastal-character-assessment>

¹³ Landscape Institute Technical Guidance Note 02-21: Table 1 - Range of factors that can be considered when identifying landscape value - LI TGN 02-21: <https://landscapeinstitute.org/publication/tgn-02-21-assessing-landscape-value-outside-national-designations/>

east (Viewpoint 17: Oban – Colonsay Ferry) to the open Atlantic Ocean, from widespread northward, westward and southward looking views from coastal edges and hinterland associated with the surrounding islands (Viewpoints 9, 10, 11, 12, 17, 18, 19, 20 and 23). The proposal would introduce a new dominant intrusive very large-scale focal point visible on the seaward skyline where it would be experienced by both land and sea-based receptors from a large geographical extent of the RCCA (Figure 16.3, Chapter 16). It would be visible behind and around Colonsay, overtopping the island from much of the RCCA, significantly affecting the over-riding sense of naturalness which is strongly expressed throughout due to the predominantly un-developed nature of the coast and hinterland, and overall absence of man-made development. The experiential qualities of wildness, remoteness, and to some degree isolation, would be significantly affected throughout. From the western extent of the RCCA the sense of being on the ‘edge of ocean’ and expansive views of the sea would be significantly affected. From a majority of the indented bays of the RCCA, the proposal would be clearly visible, significantly affecting framed views and experiential qualities associated with these secluded, isolated areas which are largely only accessible by boat or by long walks in on foot.

The surrounding national landscape designations and nationally important landscape special qualities are predominantly underpinned by the influence of the coast and seascape. We consider that the proposal would significantly affect the contribution the RCCA and its seascape makes to the experiential characteristics inherent in the special qualities of adjacent national landscape designations and nationally important landscapes (Viewpoints 10, 12, 18, 24)¹⁴. Interpreting effects identified in the SLVIA¹⁵ at this broader, regional scale, proposal would be experienced sequentially from a majority of the Southern Inner Hebridean islands of Mull, Iona, Islay, Jura, Colonsay, and Oronsay including from key ferry and boat charter routes. When considering effects from the proposal on coastal character holistically, it is our view, that this would translate to extensive, significant adverse effects on the experiential characteristics of the surrounding coast and seascape of the overarching Outer Firth of Lorn RCCA. We consider that overall, these effects would be significant adverse out to distances of up to 45 km from the proposal.

We consider the proposal would result in extensive significant adverse effects on the Outer Firth of Lorn RCCA and seascape, and the contribution it makes to the special qualities of surrounding Nationally Important landscapes. Effects would be widespread out to distances of up to 45 km from the proposal.

B.5.3 Visible aviation lighting

The SLVIA concludes that impacts on CCAs and LCTs at distances greater than 30 km would be not significant. Based on the information provided, we disagree and consider that there would be a significant night-time effect on SLQs 4, 7 and 8 of the Jura NSA given that night-time effects on the underpinning CCAs and LCTs of the NSA have been identified in the SLVIA.

We also consider that there would be a significant night-time effect on the wider RCCA, given the extensive visibility of the proposed visible aviation lighting as demonstrated by the aviation

¹⁴ Landscape Institute Technical Guidance Note 02-21- Table 1

¹⁵ SLVIA Section 16.15 - Summary

lighting ZTV (Figure 16.17, Chapter 16). This extensive visibility, combined with the predominant absence of baseline lighting within the RCCA, would result in the proposal introducing a new night-time effect of large-scale lighting into a coastal landscape and seascape with an over-riding dark skies quality, as demonstrated by the night-time visuals (Viewpoints 3, 5, 14, 16 and 21). Consequently, we consider effects from the proposed lighting on the experiential characteristics of the RCCA would be out to distances of greater than 30 km. This is evidenced by the visibility of the perimeter lighting to turbines located along the far western boundary of the array at around 35 km from the west coast of Colonsay (Viewpoint 14).

The proposal would introduce a new night-time effect of large-scale lighting into a coastal landscape and seascape with an over-riding dark skies quality. This would result in significant adverse night-time effects on SLQs 4, 7 and 8 of the Jura NSA and the Outer Firth of Lorn RCCA. With reference to CAA Policy and Guidelines on Wind Turbines¹⁶ and the need for visible aviation lighting we would strongly advise the applicant to seek approval for use of Aviation Detection and Obstacle Lighting Systems (ADLS) to assist with mitigating night-time effects.

B.6 Cumulative effects

No cumulative effects have been identified within the SLVIA as there are currently no operational, at application or scoping stage wind energy schemes within the 60 km study area. We agree with this conclusion. The pre-scoping stage Malin Sea Offshore Wind Farm would be located approximately 42 km south from the proposal, however, details of the proposed scheme are not currently available.

B.7 Design mitigation

The SNH/NatureScot Sectoral Plan for Offshore Wind Design Guidance¹⁷ identified key considerations for defining the WDA boundary within the W1 POA. In summary, design of the proposal should seek to reduce significant effects through limiting development to distances beyond 35 km *‘from all surrounding coastal edges to reduce effects on distinctive coast character, strong frontier qualities and culturally important features such as Iona’* and should employ a *‘200m maximum turbine height...turbines lower than 200m should be explored to further mitigate significant effects’*.

In our Scoping Response dated the 22 November 2024, we reiterated our pre-scoping advice, reiterating our concerns over the WDA boundary and visibility of the proposal from the surrounding coastal landscape (to include the Jura NSA, Loch na Keal NSA and the Scarba, Lunga and the Garvellachs NSA) to that of the pre-scoping WDA boundary.

To date the design development for refining the WDA boundary has considered the following for reducing landscape and visual effects¹⁸:

¹⁶ Civil Aviation Authority (2026) CAA Policy and Guidelines on Wind Turbines, CAP 764: <https://www.caa.co.uk/data-and-publications/publications/documents/content/cap-764/>

¹⁷ SNH/NatureScot: Sectoral Plan Consultation - Landscape and Visual Impact Assessment Design Guidance: www.nature.scot/doc/sectoral-plan-consultation-summary-and-design-guidance

¹⁸ SLVIA: Table 16.14 - Embedded mitigation measures for seascape, landscape and visual receptors

- *The northern, eastern and southern boundaries of the WDA have been refined, resulting in an overall reduction of the WDA by approximately 40%, when compared with DPO W1¹⁹;*
- *The southern and eastern boundary of the WDA has been defined by implementation of a buffer of at least 12km from the nearest points of Islay and Colonsay;*
- *Refinements to the northern boundary (relating to the maintenance of the Dubh Artach lighthouse) have reduced the potential horizontal spread of WTGs from specific viewpoints on the islands of Mull and Iona.*

On review of the information provided, we consider the above design development since scoping has not reduced visibility of the vertical extent of the array, and subsequently, influence of the proposal from surrounding nationally designated landscapes and distinctive coastal character and seascape. The submission of the 144-turbine layout (2 GW scheme) has been helpful to understand if effects could be reduced through smaller height to blade tip turbines. However, we consider that this layout would result in similar effects, over a similar geographical extent to those identified for the 91-turbine scheme. There would also be the potential for intensified night-time effects due to the requirement for lighting to more turbines than that of the 91-turbine layout, and issues relating to horizontal extent of the array and visual composition.

We welcome the design mitigation measures and commitment to seascape, landscape and visual project design objectives²⁰. However, it is our view that the extensive, significant adverse effects identified on surrounding nationally designated landscapes, and on regional coastal character and seascape, would result from the siting of the WDA. We consider that daytime effects and unmitigated night-time effects arising from the proposal would therefore not be feasibly overcome by siting, design or other mitigation, fundamentally due to the parameters set by the wider W1 POA.

¹⁹ EIA Chapter 4 Site Selection and Alternatives: Figure 4.2 (W1 DPO Area 754 km², Scoping WDA 510 km², proposal WDA 448 km²)

²⁰ EIAR: Appendix 15 – Design Strategy Document

B.8 Annex B1

To establish the baseline seascape, landscape, visual and experiential characteristics which underpin the RCCA, we have drawn on the surrounding seascape units, LCTs, the SLVIA CCAs assessment, and field work. This process has also been informed by the Landscape Institute Technical Guidance Note 02-21²¹ and NatureScot Coastal Character Assessment guidance. The following sets out the baseline key physical and experiential characteristics of the RCCA:

Key characteristics

- ‘Fragmented’ island coastlines - a seascape of distinctive and contrasting island groups of varying distinctive character, landscape features and coastlines with high inter-visibility between the islands;
- island coasts are low and rocky with dramatic mountain backdrops (Jura and Mull) - the combination of mountains with coast and sea provides particularly high scenic quality and drama;
- numerous offshore islands and islets which contribute to a wild and rugged, diversely scenic coast;
- Seascape and coastal character which is important to the appreciation of several designated landscapes and contributes to their special qualities with a strong association with adjacent national and local landscape designations.

Maritime influence and experience from the sea

- Key ferry routes afford a unique and immersive experience of the largely undeveloped seascape and surrounding coastline with continuous views of islands and sea;
- wild, remote ‘edge of ocean’ qualities from the western extent of the RCCA;
- the sea amplifies the sense of remoteness which enhances the isolated stretches of land and coast of much of this area.

Character of the coastal edge

- Generally low rocky coastline, rising to cliffs in places, caves, raise beaches;
- dramatic stepped terraces and cliffs along the south Mull coastline and Jura;
- form is complex locally but from a distance the coastal areas comprise a narrow strip between a simple hinterland and wide expanses of open sea;
- offshore islands and islets, diverse in character.

Character of immediate hinterland

- Remote and wild - very remote areas of strong wild land character - remote feeling seascape due to hinterland of largely undeveloped moorland and exposure to the open sea, with moorland areas exhibiting strong remote and natural qualities.

Extent of human activity

- the coastline and immediate hinterland is predominantly undeveloped with an over-riding sense of naturalness as a result;
- Settlement is very sparse or absent for much of this area with human activity contained to small individual crofts on the south-west coast of Mull;

²¹ Landscape Institute Technical Guidance Note 02-21: Table 1 - Range of factors that can be considered when identifying landscape value - LI TGN 02-21

- the surrounding coastline and smaller islands have a strong perceived sense of remoteness and isolation and are largely only accessible by long journeys on foot or by boat;
- prevailing dark skies;
- un-developed, remote and rugged stretches of coast with a strong sense of exposure throughout;
- All-pervading influence of the sea and sense of being perched on the edge of the land.

Views and visibility

- 'all round' views, presence and closeness of the sea;
- Expansive views from the western extent of the RCCA;
- Inter-visibility of adjacent island coastlines throughout;
- Heavily indented coastline provides framed views from indented sandy bays;
- ridgelines and hill profiles are prominent features in wider views from adjacent coasts and hinterland;
- the island of Colonsay is a focal point in views from Mull and Jura and Islay westwards, also from ferry routes;
- overall lack of presence of existing marine and coastal developments.

Representative viewpoints

- Viewpoints 9, 10, 11, 12, 17, 18, 19, 20 and 23 baseline photography is representative of the above physical and experiential characteristics of the RCCA.

NATURESCOT ADVICE ON MACHAIRWIND OFFSHORE WINDFARM

Appendix C - Marine mammals

Marine mammal (and leatherback turtle) interests are considered in Chapter 10 (Volume 2) and the following relevant supporting documents:

- Volume 3a - Technical Appendix 9 - Draft Marine Mammal Mitigation Protocol
- Volume 3c – Technical Appendices 10.1 – 10.6
- Volume 3c – Technical Appendix 11.2 – Baseline Site Characterisation
- RIAA – Parts 1 and 2
- Report to Inform the Marine Protected Areas Assessment
- Habitat Regulations Assessment – Screening Report

Please note our advice on leatherback turtle is contained within Appendix A of this letter.

C.1 EIA summary

The Applicant has concluded no significant effects from the proposal alone or cumulatively. We disagree and conclude there will be **significant effects from the proposal alone and cumulatively** for:

- Auditory injury (in terms of cumulative Permanent Threshold Shift (PTS)) for minke whale, harbour porpoise, fin whale and humpback whale;
- Disturbance from piling activities (proposal alone and cumulatively) for harbour porpoise, white-beaked dolphin, grey seal, white-sided dolphin, bottlenose dolphin, minke whale and harbour seal as well as cumulatively for Risso's dolphin and common dolphin; and
- Barrier effects due to underwater noise for minke whale, humpback whale and fin whale.

We require additional information on iPCoD modelling (for four species - harbour porpoise, minke whale, harbour seal and grey seal) which should include the following:

- updated iPCoD modelling to be carried out using the Dose-Response Curve (DRC) to calculate the potential number of animals disturbed;
- confirmation that the worst-case scenario included within the modelling has been recognised and assessed;
- use of predicted post-mitigation numbers of affected animals in the model;
- recalculation of piling duration and the number of days with piling activity taking place used as a parameter; and
- confirmation of the number of harbour porpoise with the potential for auditory injury (cumulative PTS).

We also require barrier effects from underwater noise to be re-assessed based on the revised iPCoD modelling, and explicit consideration of whether the 145 dB contour is an appropriate threshold to apply.

We advise there is significant risk of hindering the achievement of the Conservation Objectives for minke whale of the Sea of Hebrides NCMPA from disturbance from construction activities; potential collision from vessels and through barrier effects from underwater noise.

In addition, we also raise concerns that the assessment does not sufficiently consider designated seal haul-outs and the potential for harassment from repeated disturbance as well as what measures may be required under Section 117 of the Marine (Scotland) Act 2010 (the Act). Four designated seal haul-outs are affected - Oronsay Strand, South Oronsay, Nave Island and Soa (Mull).

Before the application can be progressed, we advise that:

- further mitigation measures – such as Noise Abatement Systems (NAS) and seasonal restrictions – should be explored, and their effectiveness established;
- Marine Directorate should consider whether an EPS licence for disturbance and potentially injury could be issued based on the current proposal parameters and the potential number of animals disturbed / injured based on DRC outputs; and
- a piling programme is produced which clearly defines the worst-case spatial and temporal piling scenarios.

Finally, after proposal alone impacts have been better established, cumulative impacts will require re-assessment.

C.2 RIAA Summary

The Applicant concludes no AEoSI from the proposal alone or in-combination. We disagree and conclude **AEoSI from the proposal alone** for:

- **Harbour porpoise at Inner Hebrides and the Minches SAC.**

Additional information is required to assess the effects of other impacts on the above SAC.

Specifically, we require additional information on:

- predicted impacts from geophysical surveys; prey availability; disturbance to seal haul-out sites (for Treshnish Isles SAC); underwater noise impacts including barrier effects; and non-piling activities.

Additional information is also required before we can advise Marine Directorate on site integrity for harbour seal at South-East Islay Skerries SAC and grey seal at Treshnish Isles SAC.

Specifically, we require additional information on:

- the proposal alone impacts from piling, prey availability and barrier effects to South-East Islay Skerries SAC and Treshnish Isles SAC.

C.3 NatureScot advice on EPS licencing

With the current piling parameters and mitigation proposed, there is a risk of injury to marine mammals and an EPS licence for injury would be required.

The numbers of harbour porpoise and bottlenose dolphin predicted to be disturbed represent a very high proportion of the relevant Management Unit (MU) population for each species. **In our view there is likely to be a detrimental impact on the maintenance of Favourable Conservation Status for harbour porpoise and possibly bottlenose dolphin.**

C.4 Baseline characterisation

It is clear from the EIA Report and supporting information that the WDA is an important area for marine mammals. Several protected sites – the Inner Hebrides and the Minches SAC, Treshnish Isles SAC, South-East Islay Skerries SAC and the Sea of the Hebrides NCMPS, as well as a number of designated seal haul-out sites are all located in proximity to the proposal. From the various data and information sources presented in Sections 10.4 and 10.5, it is clear there is extensive species diversity and density in the area, which is far greater than that typically observed at North Sea development sites.

C.4.1 Existing and site-specific survey data

We welcome the broad range of sources and surveys undertaken to support the EIA. The inclusion of Hebridean Whale and Dolphin Trust (HWDT) visual and acoustic data, Marine Mammal Observer (MMO) data conducted during geophysical surveys as well as the two separate Digital Aerial Survey (DAS) campaigns have been very helpful to aid understanding of the occurrence of cetaceans and seals within the WDA.

While the multi-year HWDT acoustic data were collected during transits and not designed to specifically survey the WDA, they have confirmed harbour porpoise presence, where this species is typically more often detected acoustically than visually. As highlighted in the HWDT acoustic data analysis report (Appendix 10.3), the Scottish west coast and WDA can be considered a marine mammal ‘hot-spot’.

We note that the DAS campaign was conducted between April 2021 and September 2023 and the additional third-party campaign was conducted between October 2020 and December 2021. It is unclear from the data presented whether the differing survey campaigns results have been combined where they overlap in time (April 2021 - November 2021). This would be appropriate as the same contractor conducted both surveys (APEM).

From the DAS results, we note that counts of the four most sighted species (grey seal, common dolphin, harbour porpoise and minke whale) were higher in each month of the third-party DAS than the proposal DAS. It is unclear which dates in each comparative month the surveys were conducted, but it can be assumed that they were not flown on the same day, meaning the raw count data could be combined. As the report from the third-party DAS campaign has not been included, it is not possible to calculate the estimated abundance using APEM’s method, which in turn does not allow for the calculation of updated density estimates for species between April 2021 and November 2021.

Appendix 10.2 includes visual data of marine mammals recorded during geophysical surveys. Two surveys are included; August – November 2023 and April – July 2025. It is noticeable that while sightings of common dolphins were made in every month of these surveys, very few sightings of harbour porpoise were reported. This does not align with the DAS survey results and may indicate that survey conditions were incongruous for harbour porpoise (e.g., high sea states), the surveys had a disturbing effect to porpoise or are indicative of MMO experience.

C.4.2 Species information and density estimates

Overall, we are content with the marine mammal species taken forward for assessment as identified from the baseline data and desktop studies, which include:

- Harbour porpoise
- Bottlenose dolphin

- Short-beaked common dolphin
- Atlantic white-sided dolphin
- White beaked dolphin
- Risso's dolphin
- Long-finned pilot whale
- Killer whale
- Minke whale
- Fin whale
- Humpback whale
- Grey seal
- Harbour seal

We note that the baseline information for bottlenose dolphin does not include detailed information on the wide-ranging inshore Scottish west coast population nor the more resident Barra community (Van Geel, 2016²²). The ecology and occurrence of the inshore population is relevant to the proposal, as they are wide-ranging and appear to utilise the entirety of the Inner Hebrides.

C.5 Assessment approach

In reviewing the assessment approach in Chapter 10, supporting Technical Appendices, Annexes, RIAA and Report to Inform Marine Protected Areas Assessment, we have set out advice where it relates to specific clarification or additional information requirements.

C.5.1 Embedded mitigation

Embedded mitigation measures are detailed in Section 10.10 of the EIA Report. It is noted in Paragraphs 73 and 74 (Chapter 10) that the assessment for impact piling has been undertaken without embedded mitigation incorporated into the initial quantitative modelling (except soft-start and ramp-up). However, it is subsequently considered qualitatively on the basis of all embedded mitigation measures outlined in Table 10.8. At present, there is little detail on the mitigation measures as they relate to the production of and adherence to post-consent plans rather than measures that will mitigate impacts. Further advice on embedded mitigation is provided within our advice below.

C.5.2 Significance of effects

The assessment clearly lays out criteria for determining sensitivity of a receptor and the magnitude of an impact, which allows significance to be ascertained using the matrix approach. This scoring of magnitude is obtained through results of quantitative modelling as well as factors such as the type of impact, duration and frequency of the activity, extent of acting alongside the timing and location of the activity.

C.5.3 Underwater noise modelling

We have reviewed the underwater noise modelling (Appendix 10.1), which includes a scenario assuming a 10 dB noise reduction due to primary noise reduction levels and its inclusion in the Marine Mammal Mitigation Protocol (MMMP). However, as outlined within the EIA Report

²² https://pure.uhi.ac.uk/files/3083577/Nienke_Van_Geel_thesis.pdf

(Paragraph 125), ‘underwater noise modelling included an arbitrary scenario assuming a 10 dB noise reduction to represent the reduction in noise levels that could potentially be achieved were primary noise reduction methods, or secondary noise reduction systems, implemented during piling in the WDA.’

This scenario was not used in our assessment of impacts for piling activities and therefore does factor into our conclusions. Although it is useful to see how a 10 dB reduction would alter the auditory injury impact ranges, the language used to describe the scenario (underlined above) with no additional detail on the feasibility at the development location or commitment to its inclusion, is not sufficient to allow us to consider this noise reduction at this stage.

Additionally, we note that concurrent piling has not been included as part of the PDE and therefore has not been assessed as an option within the EIA, RIAA or Report to Inform Marine Protected Areas Assessment. **Should this change and an option for concurrent piling be considered then we advise that a re-assessment will be required.**

C.5.4 Underwater noise thresholds

During pre-application consultation it was agreed that the Southall et al. (2019)²³ / NMFS (2018)²⁴ thresholds could be used for underwater noise modelling. We now advise that the updated 2024 thresholds should be used in assessments. However, we acknowledge that the underwater noise modelling was carried out prior to NatureScot adoption on use of the updated thresholds.

As such:

- **For all future and post-consent modelling that may be required for the proposal, we advise that the updated Southall et al. (2024) thresholds should be used.**

C.6 NatureScot appraisal – EIA

C.6.1 Underwater noise during geophysical surveys

It is noted in Section 10.12.1.3 of the EIA Report that geophysical surveys may be undertaken post-consent to inform project design work. Paragraphs 96 and 97 state that prior to any geophysical surveys, an EPA Risk Assessment will be undertaken to determine whether the proposed surveys are likely to cause disturbance or auditory injury to cetacean species. Final equipment selection will be confirmed during the EPS licence process that will be completed prior to any survey work commencing. As such, we are content with the overall conclusions, that the impact will be not significant in EIA terms.

C.6.2 Underwater noise during UXO clearance

The Unexploded Ordnance (UXO) clearance assessment for marine mammals is included within Appendix 10.6. Paragraph 8 states that any UXO clearance undertaken as part of the project will,

²³ Southall, B.L., Finneran, J.J., Reichmuth, C., Nachtigall, P.E., Ketten, D.R., Bowles, A.E., Ellison, W.T., Nowacek, D.P. and Tyack, P.L. (2019). Marine mammal noise exposure criteria: updated scientific recommendations for residual hearing effects. *Aquatic Mammals*, 45(2), pp.125-232.

²⁴ NMFS (National Marine Fisheries Service). (2018). 2018 Revisions to: Technical Guidance for Assessing the Effects of Anthropogenic Sound on Marine Mammal Hearing (Version 2.0): Underwater Thresholds for Onset of Permanent and Temporary Threshold Shifts. U.S. Dept. of Commer., NOAA.

by default, employ low-order clearance methods in line with current MD-LOT guidance (2025)²⁵. However, as a precautionary approach, a worst-scenario assuming an accidental high-order clearance has also been assessed – we agree with both of these approaches.

Embedded mitigation has been proposed (Table 3.1, Appendix 10.6) comprising adherence to the MMMP, which contains outline measures to minimise the risk of injury to marine mammals. Exact mitigation measures for this activity can be agreed, if consented, as part of the UXO Marine Licence application, when more detailed information on the exact number and type of UXOs in the WDA is available.

Overall, we agree with the Applicant's conclusions, that the impact will be not significant in EIA terms.

C.6.3 Auditory injury from underwater noise during piling

It is noted in Section 10.12.1.5 that the underwater noise modelling was based on the following worst-case piling scenarios:

- 15 m diameter monopiles for WTG foundations using a maximum blow energy of 6,600 kJ.
- 4.5 m diameter pin-piles for WTG and OSP foundations installed with a maximum blow energy of 4,400 kJ.

Paragraph 132 states that the largest impact range for instantaneous Permanent Threshold Shift (PTS) for the largest hammer energy (6,600 kJ) is 980 m for Very High Frequency cetaceans. Based on the soft-start and ramp-up mitigation measures included within the modelling along with the addition of Acoustic Deterrence Device (ADD) use, we agree that this impact range is within a mitigatable distance. With the detail of any ADD use and its duration to be agreed at a later stage, if consented.

In relation to permanent threshold shift from exposure and disturbance during the entire construction period, Table 10.5 details the realistic WCS parameters and states that the maximum piling duration for monopiles is 32 days and for pin-piles is 82.3 days. However, in our review of the spatial scenario, we conclude that the worst-case spatial scenario is 149.3 days (installation of 144 monopiles and two OSPs) and the worst-case temporal scenario is 101.3 days (608 pin piles, with a maximum of six installed per day). As the duration of piling has an impact on the magnitude score and needs to be accounted for when looking at both the cumulative PTS and disturbance numbers, the under-estimation of piling days, especially in terms of monopiles (32 days versus 149.3 days) but also pin-piles (82.3 days versus 101.3 days) will underestimate these impacts.

We have accounted for this when looking at the conclusions for magnitude for both auditory injury from cumulative exposure and disturbance. Please see our advice within the iPCoD section below for more detailed information.

For the temporal scenario, the worst-case scenario has not been established, although installation of one pile per day has been modelled for auditory injury for cumulative exposure. We request that for disturbance the Applicant establishes that the worst-case scenario used in iPCoD

²⁵ <https://www.gov.scot/publications/marine-licensing-unexploded-ordnance-clearance-guidance/pages/marine-licensing-requirements/>

modelling is indeed the worst-case scenario. Please see our advice within the iPCoD section below for more details.

We consider the worst-case scenario in terms of PTS from exposure for pin-pile installation to be six pin-piles installed within 24 hours, not installation of one pin-pile per 24-hour period. We note that both have been modelled within Appendix 10.1 and referred to within Chapter 10.

Sensitivity for all species to PTS from cumulative exposure to piling activities is scored high, which we agree with. The conclusion for magnitude for a single installation of a monopile or six sequential pin-piles at the maximum hammer energy is initially assessed as high for minke whale and medium for harbour porpoise, fin whale and humpback whale (Tables 10.24 and 10.25). For all other receptors, the magnitude is assessed as negligible. We agree with the scores assigned, which results in an **adverse significant effect for minke whale, harbour porpoise, fin whale and humpback whale in EIA terms.**

This conclusion is revised within Section 10.12.1.5.4 from major adverse effect (significant) to minor adverse effect (not significant) based on embedded mitigation measures (ADDs, MMOs, PAM operators) and that impulsive characteristics of piling activities change at distance from the noise source. We agree that major adverse significant effect is unlikely but as a precautionary approach and based on the evidence / justification provided within the EIA Report, we do not agree with the conclusion of minor significant adverse effect for minke whale, harbour porpoise. Fin whale and humpback whale.

Whilst we agree with the Applicant (Paragraph 157) that as piling noise propagates away from the source, the impulsive characteristics of the sound are reduced and therefore, the cumulative PTS ranges are precautionary. We highlight that this is an active area of research and no clear range has been established whereby the transition from impulsive to non-impulsive noise occurs. This transition is more likely to impact low frequency cetacean impact ranges (21 km and 27 km) than harbour porpoise (5.4 km and 8 km).

The Applicant has not included any detail on how embedded mitigation measures will reduce the number of animals at risk of cumulative PTS, and therefore the justification that embedded mitigation should reduce the conclusion of minor adverse effects has not been fully established.

As such:

- **This will need to be considered further by the Applicant in the development of the piling strategy and MMMP.**

As highlighted in our summary advice, with the current piling parameters and mitigation proposed, we advise there is still a risk of injury to marine mammals and an EPS licence for injury may be required.

C.6.4 Disturbance and behavioural impacts from underwater noise during piling

It states in Paragraph 165, Section 10.12.1.6 that *'to inform the assessment of this impact, a desk-based literature review has been undertaken to explore the potential for disturbance and to estimate indicative impact ranges from underwater noise generated during piling. Consequently, underwater noise modelling has not been used to predict impact ranges for behavioural effects.'* However, our understanding is that project-specific underwater noise modelling has been used to predict impact ranges for behaviour effects.

As such:

- **We request clarification from the Applicant that project-specific underwater noise modelling was used for the assessment of this impact.**

It has been useful to see the comparison between the Dose-Response Curve (DRC), Deterrent Distance-based function (harbour porpoise only) and the Effective Deterrent Range (EDR). However, we do not agree that conclusions should be based on the results from the EDR assessment. As discussed and agreed during pre-application consultation (meeting held 15th October 2025), the number of animals predicted to be disturbed from the DRC assessments should have formed the basis of the EIA conclusions.

It should also be noted that quantitative analysis results on bottlenose dolphin and killer whale should be interpreted with caution. The assessment is based on a small reference population over a large management area. Therefore, the number of animals (and resulting percentage of the reference population) predicted to be disturbed is unlikely to be accurate. This assessment would have benefited from a more qualitative approach, using resources such as photo ID catalogues.

We agree with the Applicants' scoring of sensitivity, which is medium for all species as well as the magnitude scores assigned, based on DRC, of high for harbour porpoise, white-beaked dolphin, grey seal and medium for white-sided dolphin, minke whale and harbour seal. As such, we conclude **major / moderate adverse significant effect for harbour porpoise, white-beaked dolphin, grey seal, white-sided dolphin, bottlenose dolphin, minke whale and harbour seal from disturbance from piling noise.**

Evidence from the West of Scotland and data collected from the Irish Sea (SCANS, ObSERVE²⁶) indicate a potential decline in harbour porpoise numbers being recorded, it's unclear if this is due to redistribution or loss of the species. This uncertainty in harbour porpoise trends and the conclusion of major adverse significant effect from disturbance from piling activities is of concern.

In terms of potential mitigation measures, it states in Section 4.4.6, Appendix 9 (Draft MMMP) that the use of noise reduction methods (including Noise Abatement Systems (NAS)) and seasonal or spatial piling restrictions may be included in the final MMMP / Piling Noise Mitigation Strategy, but this will be confirmed post-consent. However, even if these measures are included, it has not been established how effective they may be in reducing the potential number of animals disturbed.

As such:

- **We request further information demonstrating how mitigation will reduce predicted effects and ensure disturbance from underwater noise during piling will be reduced.**

C.6.5 Population modelling

It is noted in Section 10.12.1.6.3.1 that population modelling has been undertaken using iPCoD to determine the population consequences of disturbance due to piling within the WDA. iPCoD has been undertaken for all receptors where parameters are available: harbour porpoise, bottlenose dolphin, minke whale, grey seal and harbour seal.

²⁶ <https://www.gov.ie/en/department-of-climate-energy-and-the-environment/publications/observe-programme/>

As iPCoD was run using disturbance numbers from EDRs and not the recommended DRC (Graham et al. (2017)²⁷ for cetaceans and Whyte et al. (2020)²⁸ for seals), **we require iPCoD modelling to be re-run for harbour porpoise, minke whale, grey seal and harbour seal using the DRC.**

We do not request the bottlenose dolphin Coastal West Scotland and Hebrides (CWSH; 45 individuals) or Oceanic Waters (OW; 1,299 individuals) populations to be re-modelled within iPCoD, as the results will likely inflate the potential impacts due to the small reference populations used within the model and the large MU areas.

Narrative on grey seal (Section 10.12.1.6.3.1.4) and harbour seal (Section 10.12.1.6.3.1.5) states that the worst-case scenario for disturbance is based on the DRC, which results in 4,548 grey seals and 1,049 harbour seals being disturbed. The EIA Report states that these DRC derived numbers have been used as an iPCoD parameter. However, this does not appear to be correct when cross-referencing with Appendix 10.1 (Underwater Noise Modelling Report) where the number of animals disturbed parameter is taken from EDRs (1,106 grey seals and 101 harbour seals).

As such:

- **Updated iPCoD modelling should be carried out using the DRC approach to calculate the number of animals disturbed for harbour porpoise, minke whale, grey seal and harbour seal.**

The worst-case spatial scenario modelled within iPCoD does not include the installation of OSPs. We would not request iPCoD re-modelling based on this factor alone, but as updated iPCoD modelling is requested above, we advise the updated modelling should include the additional days of disturbance for OSP installation if this scenario is confirmed as the WCS – see our advice on this below.

The worst-case temporal scenario has not been established for disturbance. Appendix 10.1 states that installation of six sequentially installed pin-piles will take 19 hours and 30 minutes (this does not appear to factor in vessel movements between piling locations or repositioning of equipment), additionally the potential for one pile to be installed in a 24-hour period has been included within the cumulative PTS assessment.

As such:

- **Clarification is requested on whether the worst-case temporal scenario would differ from the spatial scenario assessed for this impact. Should an alternative temporal scenario be recognised, we would like confirmation that the spatial scenario included within iPCoD modelling has a larger impact on the population trajectory of the five species modelled. It may be appropriate to model both the temporal and spatial worst-case scenarios.**

The reasoning for this is that the worst-case spatial scenario may have the largest number of individuals disturbed per day. However, less individuals disturbed per day (temporal scenario) but for a longer period of time, may have a larger impact on a population trajectory (which we have

²⁷ Graham, I.M., Farcas, A., Merchant, N.D. and Thompson, P. (2017). Beatrice Offshore windfarm: An interim estimate of the probability of porpoise displacement at different unweighted single-pulse sound exposure levels. Prepared by the University of Aberdeen for Beatrice Offshore Windfarm Ltd.

²⁸ Whyte, L., Hastie, G. D., & Thompson, D. (2020). Modelling the auditory effects of pile driving on seals: A case study Moray Firth. Environmental Impact Assessment 106428. <https://doi.org/10.1016/j.eiar.2020.106428>

seen in other projects). Therefore, without modelling both scenarios, we cannot assume the worst-case is the spatial scenario when assessing disturbance from piling activities.

We agree that individuals with the potential for cumulative PTS should be included within iPCoD modelling due to these impact ranges not being fully mitigated. However, the proposal has included un-mitigated levels in the modelling and due to the reasons outlined within the EIA Report whereby cumulative PTS are precautionary we request that the numbers inputted into the model are post-mitigation to allow a more realistic approach to be taken.

As such:

- **Post-mitigation PTS numbers should be included in the modelling for harbour porpoise, with detail of the mitigation applied to be agreed in advance.**
- **Clarification on the piling schedule that was used for the modelling should be provided.**

As highlighted in our summary advice, with the current piling parameters and mitigation proposed, we advise an EPS licence for disturbance will be required. At present, we advise that there would be a detrimental impact on the maintenance of Favourable Conservation Status for harbour porpoise and potentially bottlenose dolphin.

C.6.6 Barrier effects due to underwater noise

As highlighted in Section 10.12.1.9 underwater noise during construction has the potential to create a barrier effect, preventing movement or migration of marine mammals between important feeding and / or breeding areas, or potentially increasing foraging distances if animals avoid the area.

It is noted in Paragraph 323 that noise contours up to a level of 145 dB have been used to assess barrier effects referencing Graham et al. (2017). It is not clear why a 145 dB noise contour was deemed appropriate for the assessment of barrier effects as little justification has been provided.

Taking a precautionary approach and due to uncertainty over mitigation, we advise that the magnitude for minke whale, humpback whale and fin whale should be medium due to the potential migration route along the west coast of Scotland. This would result in a **moderate adverse significant effect for minke whale, humpback whale and fin whale from barrier effects due to underwater noise.**

As such:

- **Further justification is required for using noise contours up to 145 dB for assessing barrier impacts due to underwater noise.**

C.6.7 Disturbance at protected seal haul-out sites

It is noted in Section 10.12.1.11 that grey and harbour seal are known to be sensitive to anthropogenic activities at haul-out sites, particularly during vulnerable periods such as pupping and moulting. Any activity, including disturbance from vessel traffic and construction operations (including piling), may trigger behavioural responses of seals associated with seal-haul outs due to their dependency on surrounding waters.

Section 117 of the Marine (Scotland) Act 2010 introduces the offence of intentionally or recklessly harassing a seal at a haul-out site. The information provided in the EIA Report does not appear to assess the above potential impacts.

The Applicant has used a Zone of Influence (~35 km) based on Russel et al. (2016), which presents disturbance from piling noise in relation to Sheringham Shoal Offshore Windfarm. It is unclear why project-specific underwater noise contours have not been visually presented to allow a better understanding of potential disturbance range and proximity to the protected seal haul-out sites.

Referring to Figures 10.4 and 10.5 the noise contours presented extend to the following four designated seal haul-out sites - Oronsay Strand, South Oronsay, Nave Island and Soa (Mull). These four designated seal haul-out sites (two designated for breeding) would be impacted intermittently over a 5-year construction period, we would advise the magnitude of impact to be medium not negligible.

The Applicants have assigned a sensitivity score of medium, this along with a revised magnitude score of medium results in a **moderate effect, which we advise is significant in EIA terms.**

As such:

- **We request further information on the potential underwater noise impacts to the following four seal haul-out sites - Oronsay Strand, South Oronsay, Nave Island and Soa (Mull).**

C.6.8 Changes to prey availability

Indirect effects assessed for this potential impact include those resulting from increased suspended sediment concentrations and redistribution, temporary habitat loss and disturbance or the production of underwater noise that may alter the behaviour or availability of prey species. We have reviewed the assessment provided in Section 10.12.1.12 and note the Applicant has concluded impacts are negligible or minor, which is not significant in EIA terms. However, in relation to potential impacts from underwater noise to prey species during construction, **we require further information on potential impacts to sandeel (see our advice in Appendix E) before we are able to agree with the Applicants' conclusions.**

C.6.9 Underwater noise from operating WTG

It is noted in Section 10.12.1.13 that current available data indicates that there is no lasting disturbance or exclusion of harbour porpoise or seals around windfarm sites during operation. We note that the references cited range from 2005-2012. Due to the larger turbines now being considered compared to the available research outputs, as well as the lack of current offshore wind farms on the west coast of Scotland, **we advise that monitoring of operational noise to validate EIA conclusions and better understand potential barrier impacts due to underwater noise from larger operational WTGs is undertaken if consented.**

C.6.10 All other impact pathways

For all other impact pathways, we agree with the conclusions in the EIA Report that there will not be any significant effects for any species.

C.7 Cumulative effects

C.7.1 Auditory injury and behavioural impacts from underwater noise

This potential cumulative impact is assessed in Section 10.13.3.1 of the EIA Report. As a result of the large MU and with other projects / proposals spanning different territorial waters, the cumulative assessment has been challenging to follow. For example, the CEA criteria / methodology for screening projects to assess disturbance from piling activities does not seem to align with the final list of projects screened in for assessment.

As the proposal alone assessment has concluded disturbance from underwater noise during piling is significant in EIA terms for harbour porpoise, white-beaked dolphin, white-sided dolphin, bottlenose dolphin, minke whale, grey seal and harbour seal, along with limitations of the CEA methodology and assessment as outlined above, we conclude this impact is also **significant cumulatively for the above species**. Additionally, by taking a precautionary approach following the criteria set out within the EIA Report, we conclude that **disturbance from piling activities for common dolphin (5.2% CGNS MU) and Risso's dolphin (5.1% CGNS MU) using EDRs and relevant density estimates are also significant cumulatively in EIA terms**.

We advise that the CEA can be revised when further discussion and consideration has been given to reducing the potential number of animals disturbed through agreed mitigation.

C.8 Mitigation

Embedded mitigation measures for marine mammals are detailed in Section 10.10 of the EIA Report and we have provided some advice in our appraisal of impacts above as well as in Section C.5.2.

A draft MMMP has been provided in Appendix 9 and indicates the potential use of noise reduction methods, including NAS, seasonal or spatial piling restrictions. However, even if these measures are included, it has not been established how effective they may be in reducing the potential number of animals disturbed. Furthermore, we advise assessments should not rely on embedded mitigation without a firm commitment to the measure(s).

C.9 Monitoring

No monitoring has been proposed in relation to marine mammal interests. Considering the high density and diversity of marine mammals impacted by the proposal and significance of predicted impacts, as well as there being fewer offshore windfarms on the Scottish west coast it is likely we will request further monitoring if consented.

C.10 Transboundary and cross-border impacts

The Applicant acknowledges in Section 10.14 that due to the highly mobile nature of marine mammals there will be the potential for transboundary effects.

Given the extent of this ZoI and potential transboundary impacts in Irish waters, further advice should be sought from An Bord Pleanála and/or National Parks and Wildlife Service, as appropriate.

Advice should also be sought from the Department of Agriculture, Environment and Rural Affairs (DAERA) in relation to potential cross-border impacts in Northern Irish waters.

C.11 NatureScot appraisal – RIAA

The RIAA draws on the HRA Screening Report submitted with the EIA Report. The European sites and qualifying species screened for likely significant effect (LSE) are detailed in Table 6.5 of the HRA Screening Report and include:

- Harbour porpoise of the Inner Hebrides and the Minches SAC (0.4 km)
- Grey seal of the Treshnish Isles SAC (40 km)
- Harbour seal of the South-East Islay Skerries SAC (66.5 km)
- Harbour porpoise of the Skerries and Causeway SAC (Northern Ireland, 68 km)
- Harbour seal of the Eileanan agus Sgeiran Lios mor SAC (77 km)
- Harbour seal of the Sound of Barra SAC (100 km)
- Harbour seal of the Ascrib, Isay and Dunvegan SAC (175 km)

When assessing potential impacts on marine mammal SACs, we advise that Applicants consider whether there is any connectivity between the proposal and each of the qualifying interests i.e. are there processes or pathways by which the proposal may influence the site's qualifying species directly or indirectly.

If a proposal is capable of affecting a European site it must be considered, no matter how distant. However, if there is no connection or it is obvious that the proposal will not undermine the Conservation Objectives despite a connection, no likely significant effect (LSE) can be concluded.

Therefore, we advise that due to a lack of connectivity between the proposal and qualifying species, there is no LSE to:

- harbour seal of the Sound of Barra SAC;
- harbour seal of the Eileanan agus Sgeiran Lios mor SAC; or
- harbour seal of the Ascrib, Islay and Dunvegan SAC.

We have not assessed the impacts of the proposal on the Skerries and Causeway SAC (Northern Ireland) as this is outside of Scottish jurisdiction, and advice should be sought from DAERA for this protected site.

We are content that:

- harbour porpoise of the Inner Hebrides and the Minches SAC;
- grey seal of the Treshnish Isles SAC; and
- harbour seal of the South-East Islay Skerries SAC

have been taken forward for further assessment in the RIAA and for which we provide our below.

C.11.1 Inner Hebrides and the Minches SAC – harbour porpoise

The Inner Hebrides and the Minches SAC lies immediately adjacent to the WDA, with the closest point being less than 400 m away. It is noted in Section 6.1.3 (RIAA, Part 2) that there is no documented density estimate or reference population for harbour porpoise within the SAC. The, the highest seasonal density recorded in the DAS of 0.42 individuals per km² has been used for the assessment, which we are content with.

We note in Section 6.1.5 that the criteria from JNCC et al. (2020)²⁹ has been used for the assessment of impacts to harbour porpoise of the Inner Hebrides and the Minches SAC, however this guidance is not applicable for consideration of SACs in Scottish waters. Impacts should be assessed using site-specific Conservation Objectives and Conservation and Management Advice available for sites in Scotland.

As such:

- **We advise that the impacts should be re-assessed using the Conservation Objectives and Conservation and Management Advice, which can be found on SiteLink³⁰.**

We also advise there is inconsistency within the assessment of impacts, with some assessments using the MU as the reference population whilst others use the SAC as the reference population. The reasoning behind this is not clear and **we request clarification for each impact as to why either the MU or SAC has been selected as the reference population.**

In relation to the underwater noise assessments for the RIAA generally, we note that the mapping of any overlap of sound emissions with the SACs has not been made apparent. Therefore, **we require that where we have requested additional information, this includes modelled noise contours on a map, which includes the SAC boundaries to enable our assessment of the potential ensonification of the SAC, where relevant.**

C.11.1.1 Underwater noise during geophysical surveys

We are content that with the application of appropriate mitigation, there will be no AEoSI as a result of auditory injury from underwater noise during geophysical surveys.

However, we do not agree with the conclusion of no AEoSI from disturbance associated with underwater noise during geophysical surveys. The worst-case scenario for disturbance is presented using an EDR of 5 km (JNCC et al., 2020), for three geophysical vessels operating simultaneously. The maximum number of harbour porpoise that could be disturbed is presented as 99 individuals - no temporal estimation has been included. If 99 porpoises are disturbed per day of a multi-day survey, the projected total number of animals amounts to a significant portion of the West Scotland MU. For example, the geophysical campaign conducted in 2025 amounted to 88 days, and if this was used to calculate a worst-case scenario for three vessels, up to 35.8 % of the MU population could be affected. Due to the close proximity of the WDA to the SAC (<400 m), it is likely that underwater noise would overlap with the SAC boundary at certain locations. However, it is unclear to what extent.

As such:

- **We require additional information on the temporal scale of the geophysical surveys in order to advise on potential effects to site integrity.**

C.11.1.2 Disturbance and behavioural impacts from underwater noise during piling

As advised in Section C.6.5 of our advice for the EIA appraisal above, three methods have been used to assess disturbance - EDR, DRC and deterrence-based function, with the population

²⁹ JNCC (2020). Guidance on noise management in harbour porpoise Special Areas of Conservation (SACs). JNCC Report No. 654. JNCC, Peterborough.

³⁰ <https://sitelink.nature.scot/home>

modelling (iPCoD) using disturbance numbers from EDRs rather than the recommended DRC. We consider that the DRC is the worst-case scenario and this is what should have been assessed.

Despite not using the worst-case scenario (DRC), the assessment indicates (Paragraph 102) that up to 47.6 % of the West Scotland MU could be disturbed from unmitigated monopile piling. The Applicant has not provided an estimation of the impact to the SAC.

The implementation of mitigation, including NAS may reduce impacts, although this scenario has also not been provided in the RIAA.

Despite these omissions, and using the Applicant's approach, we advise the extent of predicted impacts as a result of disturbance from underwater noise during piling are such that **we can conclude that there is an AEoSI on harbour porpoise of the Inner Hebrides and Minches SAC**. In order to ascertain the extent of the potential impacts, we require:

- **Updated iPCoD modelling using the DRC approach to calculate the number of harbour porpoise disturbed by underwater noise from piling.**

C.11.1.3 Changes to prey availability

It is noted in Section 6.1.5.9 that harbour porpoises within the Inner Hebrides and Minches SAC rely on a varied prey base that changes seasonally and geographically. Their diet typically includes small pelagic fish such as sprat and herring, alongside sandeels, cephalopods and shellfish.

Indirect effects assessed for this potential impact include those resulting from increased suspended sediment concentrations and redistribution, temporary habitat loss and disturbance or the production of underwater noise that may alter the behaviour or availability of prey species.

In relation to changes to prey availability, **we require further information on potential impacts to sandeel (see our advice in Appendix E) before we are able to reach a conclusion on AEoSI.**

C.11.1.4 Disturbance from ADDs

We do not recommend using EDRs for ADD assessment, instead we expect the Applicant to assess the area of disturbance based on propagation modelling for ADDs alongside harbour porpoise density. Visual representation of the spatial footprint of ADD noise outputs as noise contours (120 dB and 140 dB) would also enable better consideration of the potential impact to the SAC.

Therefore, we advise that **further information is required on the spatial overlap of ADD noise contours within the SAC in order to assess potential impacts from ADD disturbance.**

C.11.1.5 Auditory injury and behavioural impacts from noise associated with non-piling activities

Section 6.1.5.5 notes that the rock placement has the highest impact range of all non-piling activities, with the worse-case scenario presented for disturbance being the same as that for vessel presence (4 km disturbance buffer around the WDA), with up to 22 animals for one non-piling activity, and 358 animals if multiple non-piling activities occurred concurrently (117 vessels).

We agree there is a low likelihood of noisy non-piling construction being conducted by 117 vessels concurrently, although it would have been helpful for our assessment to have an indication of the likely concurrent non-piling works, as well as the expected temporal scale of works.

However, we disagree with the 4 km buffer approach applied, in light of TTS ranges for some activities (e.g., rock placement / dredging) being greater than this distance.

As such:

- **We request further information on non-piling disturbance in order to assess the impact on site integrity. We advise that this information should include a visual representation in the form of noise contours which show the overlap with the SAC.**

C.11.1.6 Auditory injury and behavioural response from vessel noise

Having reviewed Section 6.1.5.6, we advise that we are content there is a low risk of TTS and auditory injury from vessels. There is risk of disturbance to harbour porpoise, which has been estimated within the WDA from vessels transiting from Stornoway (WCS for length of transit within the SAC). While numbers of porpoise disturbed are high (928 animals during the Stornoway transit), the proportion of the SAC population impacted is not significant as the impacts are temporary and can be further reduced by following the Scottish Marine Wildlife Watching Code (SMWWC). Based on this we can conclude no AEoSI, however, we advise that further actions should be included within the Vessel Management Plan (VMP). We request the Applicant includes vessel management options that allow for a reduction in Dynamic Positioning (DP) and engine idling within the SAC. We also require that the numbers of vessels using ultrasonic anti-fouling devices are identified by the Applicant and included in the VMP, with our preference for these systems not to be used, where possible.

C.11.1.7 Barrier effects due to underwater noise

Section 6.1.5.7 notes for species that rely on acoustic cues for orientation or prey detection such as harbour porpoise, persistent noise may lead to avoidance of noisy areas, fragmenting habitats and restricting access to critical feeding or migratory routes.

Paragraph 160 states that the Applicant has used a 145 dB contour to represent an outer boundary of behavioural response. It is unclear how or where this cut-off has been derived.

NatureScot has seen the presentation of modelling using a precautionary 140 dB cut-off for other developments and the case for using this figure has required justification. The visualisation of the chosen noise contour in the EIA Report (Figure 10.4) has not been included in the RIAA, and as such, it is challenging to understand the potential overlap with the SAC. The close proximity of the proposal to the SAC (<400 m) necessitates further consideration as the modelled outputs indicate all piling locations result in a barrier effect within the SAC.

As such:

- **We require the area and percentage of the SAC using this approach of a noise contour at 140 dB to be presented on a map in order to help us identify and advise on whether the Conservation Objectives are likely to be undermined.**

C.11.1.8 Vessel Interaction (collision risk)

In relation to this potential impact, with the mitigation outlined in Appendix 6 (Outline EMP), we are content there will be no AEoSI. However, we do highlight that smaller, faster vessels such as those of crew transfer and support boats pose a risk to harbour porpoise and the <10 knot speed limit should also apply to these vessels as speed restrictions have been shown to directly reduce

the likelihood of collisions with marine mammals. In addition, we recommend the Applicant commits to reporting collisions across all vessel types to the International Whaling Commission Vessel Strike database³¹, and to NatureScot, if consented.

C.11.1.9 All other impact pathways

For all other impact pathways, we are content that there will be no AEoSI to harbour porpoise of the Inner Hebrides and Minches SAC.

C.11.2 Treshnish Isles SAC- grey seal

The Treshnish Isles SAC is located approximately 40 km north of the WDA at its closest point. As noted in Section 6.2, although the SAC lies more than 20 km from the WDA, telemetry and foraging studies indicate that grey seals associated with this SAC range widely at sea, with potential connectivity due to foraging activity.

The assessment uses density estimates from Carter et al. (2025) of 0.007 seals per km², rather than the absolute density derived from the EIA Report, which also references Carter et al. (2025) (0.88 seals/ km²). It is not clear why the Applicant has presented different density figures. Our advice below is based on the estimated number of individuals affected for each impact using the EIA Report density figure of 0.88 seals / km².

C.11.2.1 Underwater noise during geophysical surveys

We agree there will be no AEoSI as a result of auditory injury from underwater noise during geophysical surveys.

In relation to disturbance from underwater noise during geophysical surveys, when the correct density figure is used (0.88 seals/km²), the potential impact from disturbance is much greater than that presented in the assessment:

- 1 vessel = 69.11 seals (10.8 % of SAC population)
- 2 vessels = 138.2 seals (21.7 % of SAC population)
- 3 vessels = 207.3 seals (32.6 % of SAC population)

Carter et al. (2022) indicates that there is connectivity between the Treshnish Isles SAC and the WDA, which may be indicative of the site's foraging value. However, we recognise that there are several assumptions and levels of precaution within the estimates. While we expect that there would not be disturbance within the SAC from geophysical surveys due to the rapid attenuation of high-frequency signals, the numbers of seals disturbed that may be associated with the SAC are high.

As such:

- **We require additional information on the temporal scale of the geophysical surveys in order to advise on potential effects to site integrity.**

C.11.2.2 Auditory injury and disturbance from underwater noise during piling

³¹ <https://iwc.int/management-and-conservation/vessel-strikes>

In our review of Section 6.2.3.3 and noting the small ranges associated with auditory injury (our assessment used 0.88 seals / km²), we are content that there will be no AEoSI from underwater noise during piling.

As highlighted previously in our advice, we acknowledge the inclusion of several methods to assess disturbance from piling; EDR, DRC and Deterrent Distance-based function. It notes in Section 6.2.3.4 that the DRC result from iPCoD has been used in this assessment. However, the iPCoD modelling report (Appendix 10.4) states that all receptors have been modelled using EDR. As highlighted above for harbour porpoise and the EIA appraisal, this is not the advised approach.

The assessment of disturbance uses 20 km and 11 km (with mitigation) EDRs to reach conclusions. Table 10.35 in the EIA Report states that 4,548 grey seals would be disturbed by piling without mitigation using the DRC, which would be greater than the entire SAC population and amounts to 26 % of the West Scotland MU. While we accept it is unlikely the entire SAC population would be present in the area at any one time and the predicted disturbance would more likely affect a mixture of individual grey / harbour seals from other SACs, designated haul-outs and non-designated sites, there is still potential for a significant number of seals to be disturbed, some of which will be part of the Treshnish Isles SAC population.

Table 6.38 in the RIAA presents a single piling event scenario only and does not account for the full temporal scale of piling over the proposed 144 days. The resulting iPCoD model (Table 6.39) finds no differences between the impacted / non-impacted SAC population at any stage, due to the EDR numbers being used.

As such:

- **Updated iPCoD modelling should be carried out using the DRC approach to calculate the number of grey seal disturbed. A visual presentation in the form of noise contours which show the overlap of underwater noise with the SAC to enable us to reach final conclusions on AEoSI should also be provided.**

ADDs

Disturbance from use of ADDs is presented in Section 6.2.3.4.1.4. Using the EDRs presented in the assessment alongside the correct density shows 334 individuals (11 km EDR) would be disturbed without mitigation and 177 individuals (8 km EDR) would be disturbed using mitigation (10 dB noise reduction).

We do not recommend using EDRs for ADD assessments and instead advise that the Applicant assesses the area of disturbance based on propagation modelling for ADDs alongside seal density. Visualising the spatial footprint of ADD noise outputs as noise contours (120 dB, 140 dB) would also enable a better understanding of the potential impact to the SAC.

As such:

- **Propagation modelling for ADDs is required using the correct seal density (0.88 / km²) as well as a visual presentation in the form of noise contours which show the overlap of ADD noise outputs with the SAC to enable us to reach final conclusions on AEoSI.**

C.11.2.3 Changes to prey availability

We advise that the assessment of this impact (Section 6.2.3.9) is insufficient and does not adequately account for the high seal densities observed in the WDA, which suggests that the site may represent an important foraging ground for seals, particularly in the summer months.

Paragraph 401 states that seals may be able to switch to alternative prey types when preferred species become less abundant. However, the mention of harbour seal / porpoise depredation fails to mention that this behaviour may be attributed to a lack of other suitable fish prey, or competition for prey resources (intra-guild predation). This section does not contain the information or justification to enable us to conclude that seals from the SAC may be not adversely affected by the loss of prey species, particularly during construction. As noted above in our EIA advice, **we require further information on potential impacts to sandeel (see our advice in Appendix E) before we are able to provide definitive advice on impacts to grey seal of the Treshnish Isles SAC.**

C.11.2.4 Barrier effects due to underwater noise

Having reviewed Section 6.2.3.7, we advise that **further information on barrier effects due to underwater noise is required for us to reach a conclusion on site integrity.** As per our advice for the Inner Hebrides and Minches SAC, this should include mapped noise contours to allow for a better understanding of the potential ensonification relative to the SAC.

C.11.2.5 Disturbance to seal-haul-out sites

There are no designated seal haul-outs within the SAC. However, seals that use the nearby haul-outs may be associated with the SAC. As the assessment has not included any spatial detail on the propagation of underwater noise from piling / UXO, which may disturb seals from haul-outs we are unable to reach a conclusion on site integrity. As such, **we request further information on the spatial impacts of noise and the overlap with designated seal haul-out sites before we are able to reach a conclusion on site integrity.**

Further assessment of impacts to seal haul-outs can be found in our comments in Section C.6.7.

C.11.2.6 All other impact pathways

For all other impact pathways, we are content that there will be no AEoSI to grey seal of the Treshnish Isles SAC.

C.11.3 South-East Islay Skerries SAC - harbour seal

The South-East Islay Skerries SAC is located approximately 66.5 km from the WDA at its closest point. Section 6.3 notes that although the SAC is located over 50 km from the SAC, harbour seals in the West Scotland MU often travel over 100 km from haul-out sites. Therefore, the Applicant concludes that there is likely to be connectivity with the WDA, which we agree with.

It is noted that a harbour seal density of 0.0017 seals per km² has been used for the assessment. However, we advise that this does not reflect the harbour seal density used in the EIA (0.08 seals / km²). As advised with respect to grey seal of Treshnish Isles SAC, this will impact the conclusions of some of the impacts.

Harbour seals are more site faithful all year round so for the proposal alone we can conclude no AEoSI for the following impacts due to limited overlap with the SAC, and low numbers of potentially impacted seals when the numbers are re-calculated with the appropriate density:

- Geophysical surveys (injury and disturbance)
- UXO (injury and disturbance). Noting that TTS ranges are far smaller than EDR. High order has permanent injury distances that are not mitigatable and this will need re-assessed if surveys reveal the need for high order clearance.
- Piling (injury)
- ADDs (disturbance)
- Non-piling (injury/disturbance)
- Vessel – underwater noise (injury)
- Vessel - collision
- Operating WTG – underwater noise

C.11.3.1 Disturbance and behavioural impacts from underwater noise during piling

As highlighted previously in our advice, EDRs have been used to form conclusions on disturbance impacts from underwater noise, which we do not advise. Therefore, we require disturbance to be re-assessed using DRC and the correct seal density, alongside iPCoD. Presentation of the overlap of the noise contours alongside the location of the SAC is also required.

Using the EDRs presented and the correct seal density, disturbance results in:

- 100.5 harbour seals disturbed from unmitigated monopiles (10.2 % of the SAC population)
- 30.4 harbour seals disturbed from mitigated monopiles (3.09 % of the SAC population)

To enable us to reach a final conclusion on AEoSI, updated iPCoD modelling should be carried out using the DRC approach to calculate the number of harbour seals disturbed. A visual presentation in the form of noise contours which show the overlap of underwater noise with the SAC should also be provided.

C.11.3.2 Barrier effects due to underwater noise

Having reviewed Section 6.3.3.7, we advise that **further information on barrier effects due to underwater noise is required to enable us to reach a conclusion on site integrity**. As per our advice for the Inner Hebrides and Minches SAC and Treshnish Isles SAC, this should include mapped noise contours to allow for a better understanding of the potential ensonification relative to the SAC.

C.11.3.3 All other impact pathways

For all other impact pathways, we are content that there will be no AEoSI to harbour seal of the South-East Skerries SAC.

C.12 Report to Inform Marine Protected Area Assessment

C.12.1 Sea of the Hebrides NCMPSA - Minke whale

The Sea of the Hebrides NCMPSA is located 4.3 km to the north of the proposal and includes minke whale as one of its protected features. There is evidence to suggest the NCMPSA encompasses a seasonal occurrence of minke whales to the west coast of Scotland. Minke whales seem to move into the NCMPSA from the southwest, with the highest densities around the Small Isles. Minke are primarily feeding on forage fish and mackerel and will be vulnerable to disturbance. Changes to foraging patterns / opportunities from vessels or underwater noise may result in a reduced energy store which could impact survival through the winter months, or their ability to breed.

Given the proximity to the NCMPA, agreement was reached during pre-application engagement that the Applicant would screen in minke whale for further assessment. For the purposes of the NCMPA assessments minke whales are only protected when they are in the site and as such the assessment should consider any activities that take place within or outside of the NCMPA that could potentially kill or injury minke whales in the NCMPA, as well as any activity that has the potential to reduce access to resources or cause disturbance of minke whales in the NCMPA³².

Table 2.2 sets out the impact pathways screened in for further assessment, which we agree with.

We note that the assessment has used an animal abundance estimate derived from multiple SCANS-IV survey blocks (CS-H, CS-F, CS-I, CS-J) to form a 'West Scotland' population (2,458 animals). The assessment has also only used Block CS-H (209 animals) and Block CS-F & H (702) as to account for uncertainty, which we are content with. However, in relation to density estimates, we do not agree with the density figure used in the Report to Inform Marine Protected Areas Assessment, which is considerably less than the density used in the EIA (0.03 animals / km² vs 0.21 animals / km²).

As such, **we require re-assessment of impacts to the NCMPA using the appropriate density of minke whale (0.21 / km²). We also require the Applicant to assess the overlap of the estimated area of impact with the NCMPA using the recommended DRC (120 dB), which is relevant for assessing all impacts relating to disturbance from underwater noise.**

We recommend this information be displayed visually with noise contours overlaid with designated site boundaries. Since this information is not available in the report for these sections and there are extensive recalculations required using DRC and the correct density, we are unable to provide a conclusion.

C.12.1.1 Underwater noise during geophysical surveys

We are content in relation to auditory injury from underwater noise impacts during geophysical surveys that there is no significant risk of hindering the achievement of Conservation Objectives of the site.

Regarding the assessment of disturbance from underwater noise impacts during geophysical surveys. We note that the noise overlap for the NCMPA has been presented as <1 % of the MPA area, using a 5 km EDR as requested by NatureScot. However, when the appropriate density is used to calculate the number of disturbed animals (see Table C1 below), we note that no temporal estimate has been made in the assessment, which leads to several scenarios where multiple days of survey could lead to significant disturbance of minke whale over time. As a result, **we advise there is significant risk of hindering the achievement of the Conservation Objectives for minke whale of the NCMPA.**

Table C1. Numbers of minke whales affected by geophysical surveys (presumed on one day) using 0.03 whales per km (MPA report) and 0.21 whales per km (NS recalculation).

Survey	# animals (MPA report/NS recalculation)	% 'West Scotland' (MPA)	% CS-H & CS-F (MPA)	% CS-H only (MPA report/NS recalculation)
--------	---	-------------------------	---------------------	---

³² <https://www.nature.scot/sites/default/files/nature-conservation-mpa/10474/conservation-and-management-advice.pdf>

		report/NS recalculation)	report/NS recalculation)	
1 vessel	3 / 16.5	0.4 / 0.6	0.4 / 2.3	1.4 / 7.8
2 vessels	6 / 32.9	0.24 / 1.3	0.85 / 4.5	2.8 / 15.3
3 vessels	9 / 49.5	0.36 / 2.01	1.2 / 7.05	4.3 / 20.3

C.12.1.2 Vessel collision and disturbance

To enable us to provide advice in relation to disturbance from vessel movements, **we require the maximum number of individuals to be re-calculated for the various ‘population’ sizes using a density of 0.21 animals km⁻¹.**

In relation to collision risk, the assessment does not attempt to quantify existing vessel movements within the NCMPA, and the projected increased vessel movements if Kishorn, Bendoran or Arnish / Stornoway ports are used which would result vessels transiting through the MPA. We note that 5,699 vessel round trips are predicted during a five-year construction phase, but there is no information provided to estimate how much of an increase from baseline shipping activity this represents. **We request additional information to assess the potential impacts of any increase in vessel traffic in this NCMPA.**

C.12.1.3 ADDs

Recalculation of minke whales potentially disturbed by ADD use for 15 mins (using an 11 km EDR) results in:

- 79.82 individuals disturbed
- 3.2 % of ‘West Scotland’ population
- 11.3 % of CS-F & CS-H population
- 38.19 % of CS-H only

We require that the modelled propagation of the ADD is presented alongside noise contours that may result in disturbance. If consented, this information, along with the correct density of minke whales, will be required for us to advise on the risk of hindering the Conservation Objectives and to inform the use of ADDs in the MMMP.

C.12.1.4 Barrier effects due to underwater noise

The Applicant has failed to identify the seasonal movements of minke whales into the NCMPA from the southwest, which presents a significant possibility of barrier effects, especially during activities such as pile driving, geophysical surveys and to some extent pre-construction activities such as seabed preparation / cable route preparation.

In addition, the underwater noise output of the operational array has not been assessed in this report in relation to the NCMPA.

We advise that additional assessment is required for us to advise on this impact pathway and whether it could impact on the Conservation Objectives. This should include underwater noise impacts displayed spatially, using DRC and identifying the correct noise contour, with a particular emphasis on the seasonal consideration of movements to this MPA.

C.12.1.5 Disturbance and behavioural impacts from underwater noise during piling

As highlighted previously in our advice, **we require re-assessment of disturbance from underwater noise using the appropriate density of minke whale (0.21 / km²). We also require the Applicant to assess the overlap of the estimated area of impact with the NCMPA using the recommended DRC (120 dB).** This information is required before we are able to advise on the risk of hindering the achievement of Conservation Objectives for minke whale of the NCMPA.

NATURESCOT ADVICE ON MACHAIRWIND OFFSHORE WINDFARM

Appendix D – Offshore ornithology

Offshore ornithological interests for MachairWind are considered in Chapter 11 (Volume 2) and the following relevant supporting appendices:

- Volume 3c – Technical Appendices and associated Annexes 11.1 – 11.7
- Report to Inform Appropriate Assessment (RIAA) – Parts 1 and 3
- RIAA – WDA HRA Screening Report
- RIAA – Without Prejudice Derogation Case
- RIAA – Appendix 1 – Without Prejudice Guillemot Compensation Plan

D.1 RIAA summary

D.1.1 Proposal alone assessment

The Applicant concludes no AEoSI from the proposal alone or in-combination. We disagree and conclude **AEoSI from the proposal alone** for:

- **Guillemot at North Colonsay and Western Cliffs SPA.**

D.1.2 In-combination assessment

We also conclude that there will be **AEoSI in-combination** with other offshore wind farms for:

- **Kittiwake at Ailsa Craig SPA.**

D.2 EIA summary

D.2.1 Proposal alone assessment

The Applicant has concluded no significant effects from the proposal alone. We disagree and conclude there will be a **significant effect from the proposal alone** for:

- **Guillemot from displacement.**

D.2.2 Cumulative assessment

We also conclude that there will be a **significant effect from this proposal cumulatively** with other offshore wind farms for:

- **Kittiwake from collision and displacement.**

D.3 Baseline characterisation

The baseline characterisation is summarised within Section 11.8 of the EIA Report, with full details provided in Appendix 11.2.

D.3.1 Digital Aerial Surveys (DAS)

The Applicant undertook monthly DAS between March 2021 and September 2023, recording 30 months of data. The area covered by the DAS was larger than the WDA plus 4 km buffer to account for edge effects.

The HPAI outbreak began in summer 2021 and high mortalities were recorded through to 2023. However, we note that the baseline surveys for this proposal recorded higher numbers of birds in the 2022 breeding season than in 2021 for most species (Table 10, Appendix 11.2).

As the June survey was not undertaken in 2022, the 2022 breeding season was not used for calculating Mean Seasonal Peak (MSP). Therefore, the breeding season MSP was based on 2021 and 2023 data. An additional three months of third-party DAS samples were selected to inform the baseline, giving 27 DAS samples for baseline characterisation – this was agreed in pre-application correspondence (letter sent 07 August 2025).

D.3.2 Availability bias

Availability bias was based on Thaxter et al. (2013)³³ for guillemot and razorbill, and Spencer (2012)³⁴ for puffin. These data have since been superseded by Dunn et al. (2024)³⁵, however as the former references were guidance at the time of scoping, and would not affect our conclusions for these species, we are content to accept it.

D.3.3 Deceased birds

It is noted that a small number of deceased birds were recorded during the DAS survey. These have not been included in the calculation of the density and abundance estimates, which is the correct approach.

D.3.4 Colony counts

Annex 11.2M notes that SPA population sizes were either taken from Seabirds Count (2015-2021, Burnell et al., 2023), or from the Seabird Monitoring Programme (SMP) database if more recent counts were available – we are content with this approach. We also note that razorbill at Ailsa Craig were not included in the breeding population estimate. However, we are content that this would not affect our conclusions.

D.4 Assessment approach

The EIA Report and RIAA provide sufficient detail on which to base the assessment. The supporting appendices and associated annexes provided to support the EIA and RIAA are of good quality, transparent and consistent in content and presentation, and have enabled us to review the assessment with confidence and subsequently provide our advice.

In reviewing the assessment approach in Chapter 11, supporting Technical Appendices, Annexes and RIAA, we have set out advice where it relates to specific clarification or additional information requirements.

³³ Thaxter C.B., Daunt, F., Grémillet, D., Harris M. P., Benvenuti, S., Watanuki, Y., Hamer, K.C. Wanless, W. (2013) Modelling the Effects of Prey Size and Distribution on Prey Capture Rates of Two Sympatric Marine Predators. PLoS ONE 8(11): e79915. Available at: <<https://doi.org/10.1371/journal.pone.0079915>>.

³⁴ Spencer, S M. (2012). Diving Behavior and Identification of Sex of Breeding Atlantic Puffins (*Fratercula arctica*), and Nest-Site Characteristics of Alcids on Petit Manan Island, Maine. University of Massachusetts Amherst.

³⁵ Dunn, R. E., Duckworth, J., O'Brien, S., Furness, R. W., Buckingham, L., Daunt, F., Bogdanova, M., & Green, J. A. (2024). Temporal and spatial variability in availability bias has consequences for marine bird abundance estimates during the non-breeding season. Ecological Solutions and Evidence, 5, e12373. <https://doi.org/10.1002/2688-8319.12373>

D.4.1 Displacement

The displacement report (Appendix 11.4) provides information on the assessment of distributional responses. The matrix approach (as per NatureScot guidance) was used to quantitatively assess the impact of disturbance / displacement effects, as agreed during pre-application engagement (email sent 18 December 2025). We agree with the species assessed for displacement, which includes:

- Great northern diver, kittiwake, common tern, Arctic tern, guillemot, razorbill, puffin, fulmar and gannet.

As great northern diver are considered less sensitive to disturbance than red-throated diver during the non-breeding season, a displacement rate of 50 % to 80 % and a mortality rate of 5 % was applied – we are content to accept this.

Seasonal definitions presented both our NatureScot Guidance Note 9³⁶ and the BDMPS seasons, we are content with the assessment and advise mean seasonal peaks were calculated correctly. Displacement and mortality rates are as advised in our Guidance Note 8³⁷.

The results are presented clearly and the calculations of mortality in the matrices are correct. The results of the displacement assessments are transferred correctly through to the EIA and the RIAA.

D.4.2 Collision risk modelling (CRM)

The Applicant has set out the approach taken to CRM in Appendix 11.3, which follows NatureScot guidance as laid out in Guidance Note 7³⁸. The R version of the sCRM tool was used, which was agreed during pre-application engagement (email sent 18 December 2025) and both stochastic and deterministic analysis outputs have been presented. We support the methods used and outputs taken forward in the assessment as well as the species taken forward in the assessment, which includes:

- Kittiwake, great black-backed gull, herring gull, Arctic tern, common tern and gannet.

D.4.3 Migratory CRM

The approach taken for collision modelling of migratory species has been set out in Annex 11.3C (Greenland white-fronted goose) and 11.3D. CRM for migratory species has been undertaken using the Marine Directorate mCRM tool, which we support. All species with a migratory route that overlaps with the WDA have been included.

D.4.4 Breeding season apportioning

In relation to apportioning methodology, having reviewed Appendix 11.6 (Apportioning for HRA), we note that the Applicant has incorrectly re-screened sites when undertaking apportioning for

³⁶ NatureScot Guidance Note 9 – seasonal periods for birds in the Scottish Marine Environment: <https://www.nature.scot/doc/guidance-note-9-guidance-support-offshore-wind-applications-seasonal-periods-birds-scottish-marine>

³⁷ NatureScot Guidance Note 8 – assessing distributional responses, displacement and barrier effects of marine birds: <https://www.nature.scot/doc/guidance-note-8-guidance-support-offshore-wind-applications-marine-ornithology-advice-assessing>

³⁸ NatureScot Guidance Note 7 – assessing collision risk of marine birds: <https://www.nature.scot/doc/guidance-note-7-guidance-support-offshore-wind-applications-marine-ornithology-advice-assessing>

kittiwake, guillemot, razorbill and herring gull. For Stage 1 LSE screening, our advice is that connectivity is determined by measuring the closest edge of the SPA to the closest edge of the proposal. For apportioning, our advice is that the shortest 'at-sea' distance between the geometric centre of the proposal and the geometric centre of an SPA should be measured. By re-screening at the apportioning stage, the Applicants have incorrectly screened out kittiwake at Cape Wrath SPA, herring gull at Rathlin Island SPA, razorbill at Tory Island SPA and guillemot at Horn Head to Fanad Head SPA, Mingulay and Berneray SPA and Rum SPA when apportioning impacts. It is unlikely that this will impact our overall conclusions. However, we require the apportioning to be redone for the sites / species that were screened out to confirm impacts, this will also ensure that future in-combination assessments can be undertaken using the correct figures.

As such:

- **We require the Applicant to undertake re-apportioning to include the sites identified above to enable us to confirm the potential impacts for this proposal and to ensure that future in-combination assessments can be undertaken correctly. Any subsequent PVA required is likely to be requested as additional information.**

D.4.5 Non-breeding season apportioning

The Apportioning for HRA Appendix (11.6) details the approach to determining non-breeding season connectivity and apportioning impacts occurring in the non-breeding season to relevant SPAs. The Applicant has apportioned impacts in the non-breeding season to protected sites in the Western BDMPS³⁹ only even where a species foraging range means there is connectivity to other BDMPS regions. This approach was discussed pre-application as partially highlighted in Table 2.1 - Summary of pre-application consultation on offshore ornithology, ID numbers 112 and 113.

However, it was advised in further correspondence with the Applicant (email sent 10 March 2026) that this approach would not be suitable for species with large foraging ranges where there may be connectivity between the proposal within the Western BDMPS and SPAs from outwith the Western BDMPS, such as fulmar. It was advised that these should be included in the in-combination assessment so that the impacts can be tracked across projects / proposals.

As such:

- **We require the Applicant reviews the non-breeding season apportioning to check whether any additional impacts have not been accounted for due to apportioning to SPAs within the Western BDMPS only. Any subsequent PVA required is likely to be requested as additional information.**

D.4.6 Population Viability Analysis

Technical Appendix 11.7 provides information on the Population Viability Analysis (PVA) undertaken by the Applicant. It is noted that the Applicant has used a combination of site-specific, local and national productivity rates for undertaking PVAs for SPAs with connectivity to the proposal. As there are differences between the Scottish east and west coast populations, we are

³⁹ Western BDMPS incorporates UK Western Waters & Channel BDMPS which includes kittiwake and fulmar; UK West of Scotland Waters BDMPS which includes great black-backed gull and UK Western Waters BDMPS which includes gannet, common tern Arctic tern, guillemot, razorbill and puffin.

content to accept this in principle. However, it is not clear why the Applicant has selected local over national rates or vice versa in each specific situation. For example, for kittiwake at the Flannan Isles SPA a local productivity rate has been used but for kittiwake at North Colonsay and Western Cliffs SPA, a national rate has been used.

As such:

- **Clarification is requested as to the justification for each rate (local or national) that has been selected for each species at each SPA.**

D.4.7 In-combination / cumulative assessment

We are content with the approach taken for the in-combination / cumulative assessments, noting the in-combination assessment may need to be revisited once the re-apportioning of impacts has been undertaken as highlighted in our advice above (Sections D.4.4 and D.4.5).

It is noted that not all projects included a full impact assessment in their consent applications. Mortality estimates for these projects - Mona, Morgan and Morcambe offshore wind farms were calculated jointly, and these joint estimates have been used by the Applicant. We are content that this is acceptable.

D.5 NatureScot appraisal – RIAA

The RIAA draws on the HRA Screening Report submitted with the EIA Report. We confirm that we agree with the approach used to compile the long list of European sites and qualifying species screened in as having connectivity to the proposal as well as the conclusions reached in relation to likely significant effect (LSE) as per Table's 7.26 - 7.28 and Appendix 1 of the HRA Screening Report.

Our detailed advice on the European sites and qualifying species assessed in the RIAA is provided in this section of our advice. The assessment of AEoSI is primarily based on the PVA Counterfactual of Population Size (CPS) outputs after 35 years, using the outputs as presented in the RIAA Part 3 - Ornithology. However, in reaching our conclusions we also consider a range of other factors including:

- Counterfactual of Population Growth Rate (CGR) outputs and the % decrease in population growth rate;
- Status of the population including short and long-term trends;
- Condition of the qualifying species;
- Species ecology;
- Proportional importance of the species in Scotland and UK; and
- Impacts of HPAI and other recent mortality events.

PVAs were undertaken for the following impact pathways:

- Collision;
- Distributional responses; and
- Collision and displacement combined for gannet and kittiwake.

D.5.1 Proposal alone conclusions on breeding seabird SPAs

We conclude No AEoSI for all SPAs and their qualifying species that the Applicants concluded did not require a PVA, noting that this is provisional advice subject to results of the re-screening and re-apportionment as requested above.

Our summary conclusions for the qualifying species from the SPAs where PVAs have been undertaken are shown in Table D1 below.

Table D1: NatureScot determination of AEoSI for proposal alone impacts where PVA has been undertaken.

SPA	Species	High Impact CPS (median)	Low Impact CPS (median)	AEoSI Determination
Ailsa Craig	Gannet	0.995	0.997	No AEoSI
	Kittiwake	0.986	0.991	No AEoSI
Canna and Sanday	Kittiwake	0.990	0.992	No AEoSI
Cape Wrath	Kittiwake	0.977	0.983	No AEoSI
	Razorbill	0.985	0.994	No AEoSI
Flannan Isles	Kittiwake	0.985	0.990	No AEoSI
	Razorbill	0.978	0.993	No AEoSI
Handa	Kittiwake	0.997	0.997	No AEoSI
	Razorbill	0.987	0.996	No AEoSI
Mingulay and Bernera	Kittiwake	0.986	0.989	No AEoSI
	Razorbill	0.971	0.987	No AEoSI
North Colonsay and Western Cliffs	Kittiwake	0.934	0.943	No AEoSI
	Guillemot	0.766	0.865	AEoSI
North Rona and Sula Sgeir	Kittiwake	0.987	0.991	No AEoSI
	Great black-backed gull	0.972	N/A	No AEoSI
	Razorbill	0.941	0.980	No AEoSI
Rum	Kittiwake	0.987	0.992	No AEoSI
Shiant Isles	Razorbill	0.989	0.996	No AEoSI
St Kilda	Kittiwake	0.991	0.994	No AEoSI
	Razorbill	0.956	0.984	No AEoSI
Sule Skerry and Sule Stack	Puffin	0.999	1.000	No AEoSI

Details are provided below for any sites / qualifying species where we have concluded AEoSI. We have only considered SPAs in Scottish Waters and advise Marine Directorate to seek advice from the relevant SNCB for advice on cross-border and transboundary SPAs.

Conclusions are also provided below for seabird assemblage features, where any named qualifying species of an assemblage feature in an SPA is protected in its own right. The SPA Conservation Objectives are set for individual species rather than the assemblage and therefore the features should be assessed and any impacts concluded at the individual species level. This is the established position in Scotland.

D.5.1.1 North Colonsay and Western Cliffs SPA

Table D2: Proposal alone PVA results for North Colonsay and Western Cliffs SPA.

SPA	Species	High Impact CPS (median)	Low Impact CPS (median)	AEoSI Determination
North Colonsay and Western Cliffs	Kittiwake	0.934	0.943	No AEoSI
	Guillemot	0.766	0.865	AEoSI

We conclude:

- **AEoSI for guillemot at North Colonsay and Western Cliffs SPA.**

In reaching this conclusion, we considered:

- the very low CPS values
- a population decline of between 13.5 % – 23.4 %
- a decrease in population growth rate of between 0.4 % – 0.7 %
- the favourable condition of the feature
- a 26 % population decline between Seabird 2000 and Seabirds Count.

Based on the conclusion above, we also conclude **AEoSI for the breeding seabird assemblage feature at North Colonsay and Western Cliffs SPA.**

D.5.2 In-combination conclusions on breeding seabird SPAs

Our assessment of in-combination PVA results and determination of AEoSI for breeding seabird SPAs is provided below in the form of a summary table followed by more detailed assessments for individual SPAs and species.

The assessment conclusions are based on the data as it is presented in each species' table within the Technical Appendix 11.7: Population Viability Analysis using the '*In-comb WCS + Upper*' scenario. We have assumed this to be the in-combination worst case scenario for collision and upper displacement rate.

As such:

- **Confirmation is requested from the Applicant that the figures presented are the in-combination worst case scenario for collision and upper displacement rate.**

PVAs were undertaken for the sites detailed below in Table D3, and our advice is based on PVA outputs over 35 years.

We conclude No AEoSI for all SPAs and their qualifying species that the Applicant's concluded did not require a PVA, noting that this provisional advice subject to the results of the re-screening and re-apportionment as per our advice in Sections D.4.4 and D.4.5.

Our in-combination conclusions for SPAs where PVAs have been undertaken are shown below. Where no in-combination assessment was possible due to no other developments / proposals being within range a N/A has been used in Table D3 below to denote this.

Table D3: Summary of NatureScot's in-combination assessment of AEoSI for breeding seabird SPAs where PVA has been undertaken. Species highlighted in bold are considered to have moderate and therefore significant conclusions.

SPA	Species	High Impact CPS (median)	Low Impact CPS (median)	AEoSI Determination
Ailsa Craig	Gannet	0.98	0.98	No AEoSI
	Kittiwake	0.88	0.89	AEoSI
Canna and Sanday	Kittiwake	0.99	0.99	No AEoSI
Cape Wrath	Kittiwake	0.93	0.94	No AEoSI
	Razorbill	0.96	0.98	No AEoSI
Flannan Isles	Kittiwake	0.99	0.99	No AEoSI
	Razorbill	N/A	N/A	N/A
Handa	Kittiwake	0.99	1.00	No AEoSI
	Razorbill	0.97	0.98	No AEoSI
Mingulay and Berneray	Kittiwake	0.99	0.99	No AEoSI
	Razorbill	0.95	0.97	No AEoSI
North Colonsay and Western Cliffs	Kittiwake	0.93	0.94	No AEoSI
	Guillemot	N/A	N/A	N/A
North Rona and Sula Sgeir	Kittiwake	0.99	0.99	No AEoSI
	Great black-backed gull	N/A	N/A	N/A
	Razorbill	0.94	0.98	No AEoSI
Rum	Kittiwake	0.99	0.99	No AEoSI
Shiant Isles	Razorbill	0.97	0.99	No AEoSI
St Kilda	Kittiwake	N/A	N/A	N/A
	Razorbill	N/A	N/A	N/A
Sule Skerry and Sule Stack	Puffin	0.97	0.98	No AEoSI

Details are provided below for any sites / qualifying species where we have concluded AEoSI and we have only considered SPAs in Scottish Waters and advise Marine Directorate to seek advice from the relevant SNCB for advice on cross-border and transboundary SPAs.

Conclusions are also provided below for seabird assemblage features, where any named qualifying species of an assemblage feature in an SPA is protected in its own right. The SPA Conservation Objectives are set for individual species rather than the assemblage and therefore the features should be assessed and any impacts concluded at the individual species level. This is the established position in Scotland.

D.5.2.1 Ailsa Craig SPA

Table D4: In-combination PVA results for Ailsa Craig SPA.

SPA	Species	High Impact CPS (median)	Low Impact CPS (median)	AEoSI Determination
Ailsa Craig	Gannet	0.976	0.985	No AEoSI
	Kittiwake	0.881	0.885	AEoSI

We conclude:

- **AEoSI for kittiwake at Ailsa Craig SPA**

In reaching this conclusion, we considered:

- the low CPS value
- a population decline of up to 12 %
- the unfavourable recovering condition of the feature
- a 71 % population decline between Seabird 2000 and Seabirds Count.

Based on the conclusion above, we also conclude **AEoSI for the breeding seabird assemblage feature at Ailsa Craig SPA.**

D.5.3 The Seas off St Kilda SPA conclusions

Our assessment of impacts to the Seas off St Kilda SPA marine breeding seabird qualifying species was undertaken with respect to the functionally linked breeding colony SPAs⁴⁰. The assessed SPAs / qualifying species, for which a PVA was undertaken, are listed in the table below along with our colony conclusions for AEoSI.

Table D5: Summary of NatureScot conclusions for Seas off St Kilda SPA.

Marine SPA	Functionally linked SPA	Species	Colony SPA conclusion	In-combination conclusion
Seas off St Kilda	St Kilda	Kittiwake	No AEoSI	N/A
		Razorbill	No AEoSI	N/A

We conclude no AEoSI for kittiwake and razorbill for Seas off St Kilda SPA.

D.6 NatureScot appraisal – EIA

All relevant impact pathways have been assessed in the EIA Report, either quantitatively or qualitatively, and conclusions drawn on their significance.

⁴⁰ Conservation and Management Advice (2024) St Kilda SPA and Seas off St Kilda SPA:
<https://www.nature.scot/sites/default/files/special-protection-area/8580/conservation-and-management-advice.pdf>

The key impact pathways for breeding seabirds – collision and distributional responses, were assessed quantitatively for proposal alone and cumulative impacts. Our assessment of these impacts in terms of their significance under EIA is provided below.

As in our advice on AEoSI for the RIAA, our assessments of significance under EIA are primarily based on the PVA Counterfactual of Population Size (CPS) outputs after 35 years. However, in reaching our conclusions we also consider a range of other factors including:

- Counterfactual of Population Growth Rate (CGR) outputs and the % decrease in population growth rate;
- Status of the population including short and long-term trends;
- Condition of the qualifying species;
- Species ecology;
- Proportional importance of the species in Scotland and UK; and
- Impacts of HPAI and other recent mortality events.

D.6.1 Proposal alone assessment

Our summary conclusions for the proposal alone impacts are shown in Table D6 below.

Table D6: NatureScot summary conclusions for proposal alone impacts. Species in grey did not meet 0.02 % change in population size threshold for PVA. Species highlighted in bold are considered to have moderate and therefore significant conclusions.

Species	Mortality from proposal alone (low to high)	Median CGR after 35 years of impact (low to high mortality)	Median CPS after 35 years of impact (low to high mortality)	Applicant conclusion	NatureScot conclusion
Great northern diver	0.4-0.6	1.000-1.000	0.994-0.985	Minor	Minor
Kittiwake	89.5-110.6	1.000-0.999	0.982-0.977	Negligible	Negligible
Arctic tern	1.5-2.1	0.999-0.999	0.968-0.956	Negligible	Negligible
Common tern	0.9-1.2	0.982-0.977	0.533-0.417	Minor	*Minor
Guillemot	658.9-1326.5	0.999-0.997	0.947-0.897	Minor	Moderate
Razorbill	74.1-159.3	0.999-0.999	0.979-0.955	Minor	Minor
Great black-backed gull	0.8	1.000	0.990	Minor	Minor
Herring gull	8.0	1.000	0.981	Minor	Minor
Puffin	24.7-50.6	1.000-1.000	0.999-0.998	Negligible	Negligible
Fulmar	0.7-1.9	1.000-1.000	1.000-1.000	Negligible	Negligible
Gannet	19.1-28.7	1.000-1.000	0.999-0.998	Negligible	Negligible

* please see further advice below

Further advice is provided below, including for the species where we have concluded the impacts under EIA are significant.

D.6.1.1 Guillemot

The PVA results for guillemot from proposal alone impacts are shown below in Table D7.

Table D7: proposal alone assessment PVA results for guillemot (range represents lower and higher displacement scenario).

Scenario	Median CGR	Median CPS
'National' rates	0.9985-0.9970	0.9475-0.8972
'Local' rates	0.9985-0.9970	0.9474-0.8968

We conclude that there will be a moderate and thus **significant effect from the proposal alone** in EIA terms for:

- **Guillemot from displacement.**

In reaching this conclusion, we considered:

- the low CPS values, which represent a decrease in the regional population size after 35 years of up to 10.3 %
- the moderate CGR values, which represent a decrease in the population growth rate after 35 years of up to 0.3 %
- the status of the guillemot population, with a 31 % decrease in Scottish and a 11 % decrease in the UK populations between Seabird 2000 and Seabirds Count.

D.6.1.2 Common tern

The PVA results for impacts to common tern from the proposal alone from displacement and collision is shown below in Table D8.

Table D8: proposal alone assessment PVA results for common tern (range represents lower and higher scenario).

Scenario	Median CGR	Median CPS
'National' rates	0.9834-0.9778	0.5438-0.4440
'Local' rates	0.9823-0.9765	0.5333-0.4167

The Applicant has used mean CGR and CPS in the description of the PVA results (Paragraph 492, Chapter 11), rather than median. This has resulted in substantially different numbers than expected being presented. We would expect a CPS reduction of up to 58.3 % after 35 years when using the Minches and West Scotland demographics, rather than 30.1 %. These outputs in the context of the breeding population would be of concern.

However, we note the Applicant's narrative on common tern (Paragraph 493, Chapter 11), highlighting a number of factors that should be considered when determining magnitude of impact. These include, the confidence intervals being high, low population estimates, the ratio used for apportioning being misleading due to small sample size and, most notably, the peak monthly abundance and MSP being higher than the regional population size.

In addition, we consider the August 2021 survey to have captured a migration passage, based on:

- Common tern hatch dates being late June to mid-July, with young flying 3-4 weeks after hatching – they do not usually remain at colony for more than a few days.

- Most breeding sites are empty by mid-August. In late summer / early autumn large flocks are seen in passage on the east and west coasts, with 2,000 seen in the Sound of Mull on 15 August 2003 (Forrester et al., 2007⁴¹).
- The date of the breeding season peak abundance (126 birds based on raw count of 8 or 21 apportioned) was 14 August 2021.
- The regional adult population is placed at 42 birds and there were no other large aggregations in other months (second largest in July 2022, 2 birds raw count / abundance estimate of 18).
- The survey timing would be in line with the Furness (2015)⁴² autumn migration.

As a result, we have undertaken a PVA using the biogeographic population to understand how changing from a breeding population to a migration aggregation would alter the outputs.

The results have shown that predicted impacts would be negligible in the context of the larger migratory population. However, we advise if consented, the Applicant should validate this conclusion through monitoring such as radar tracking.

If this DAS sample is shown to be a one-off occurrence, we are content to agree with the Applicants' conclusions in the EIA Report - that the effects will be minor and not significant in EIA terms. Should the monitoring results indicate that this area is of high migratory importance, further discussions will be required with NatureScot.

As such:

- **We advise monitoring is required to validate conclusions that the impacts to migratory common tern would be negligible.**

D.6.2 Cumulative assessment

Our summary conclusions for the cumulative impacts are shown in Table D9 below.

Table D9: NatureScot summary conclusions for cumulative impacts. ND indicates that no quantitative assessment was undertaken due to a lack of data, which we accept. Species highlighted in bold are considered to have moderate and therefore significant conclusions.

Species	Mortality from proposal alone (low to high)	Median CGR after 35 years of impact (low to high mortality)	Median CPS after 35 years of impact (low to high mortality)	Applicant conclusion	NatureScot conclusion
Great northern diver	0.4-0.6	ND	ND	Minor	Minor
Kittiwake	89.5-110.6	0.997-0.997	0.893-0.887	Negligible	Moderate
Arctic tern	1.5-2.1	0.999-0.999	0.970-0.959	Negligible	Minor
Common tern	0.9-1.2	0.983-0.977	0.524-0.433	Minor	Minor*
Razorbill	74.1-159.3	0.999-0.997	0.958-0.895	Minor	Minor
Great black-backed gull	0.8	0.999	0.975	Minor	Minor

⁴¹ Forrester et al. (eds) 2007. *The Birds of Scotland*. The Scottish Ornithologists' Club. Aberlady.

⁴² Furness, R.W. 2015. *Non-breeding season populations of seabirds in UK waters: Population sizes for Biologically Defined Minimum Population Scales (BDMPs)*. Natural England Commissioned Reports, Number 164.

Puffin	24.7-50.6	1.000-1.000	0.993-0.986	Negligible	Negligible
Fulmar	0.7-1.9	1.000-1.000	0.999-0.998	Negligible	Negligible
Gannet	19.1-28.7	0.999-0.999	0.978-0.966	Negligible	Negligible

Further advice is provided below, including for the species where we have concluded the cumulative impacts under EIA are significant.

D.6.2.1 Kittiwake

The PVA results for kittiwake from cumulative impacts for collision and displacement are shown below in Table A10.

Table D10: Cumulative assessment PVA results for kittiwake.

Scenario	Median CGR	Median CPS
'National' rates	0.9969-0.9967	0.8928-0.8872
'Local' rates	0.9969-0.9967	0.8930-0.8872

We conclude that there will be a moderate and thus **significant effect cumulatively** for:

- **Kittiwake from collision and displacement.**

In reaching this conclusion, we considered:

- the relatively low CPS values, which represent a decrease in the regional population size after 35 years of up to 11.3 %
- the relatively low CGR values, which represent a decrease in growth rate of up to 0.33 %
- the vulnerability of the population, with a 57 % decrease in Scottish and 43 % decrease in the UK populations between Seabird 2000 and Seabirds Count.

D.6.2.2 Common tern

As detailed above in our advice for proposal alone impacts to common tern, we believe the aggregation of common tern recorded in the DAS in August 2022 to be migratory. Therefore, we do not believe the outputs of the PVA to reflect biological reality in the breeding season. As a result, we are content to conclude minor and thus not significant effects from the cumulative impact assessment as long as the monitoring advice provided in the proposal alone appraisal in Section D.5.1.2 is followed.

D.6.3 Greenland white-fronted geese

Greenland white-fronted geese have suffered sustained population declines over multiple years, which the Applicant has acknowledged and as such undertaken separate collision risk modelling for this species. The Applicant has highlighted a discrepancy between the avoidance rate within the mCRM tool and the Woodward et al. (2023) report. The modelling has been undertaken using the avoidance rate detailed within the mCRM tool. However, we would recommend that the Woodward et al. (2023) value of 0.9998 be used for any future modelling of this species.

Greenland white-fronted geese are connected to several SPAs in the South and West of Scotland and may migrate through the WDA. While we note the assessment undertaken by the Applicant

has explored the migratory collision risk model outputs, we have been made aware of the emerging global concerns for this species. In particular, the global population of Greenland white-fronted geese has fallen significantly, and the population is now considered Critically Endangered – the latest population estimate in Spring 2025 was 13,303 birds. Greenland white-fronted geese have undergone major declines with a 11.6 % decline between Spring 2024 and 2025. While climatic variables add uncertainty to predictions, on the current trajectory the population could be extinct within 20 – 50 years.

As such:

- **We require the mCRM to be updated for Greenland white-fronted geese with the correct population figure and avoidance rate.**

The main cause of the decline is poor productivity linked to increased snow in Greenland early in the breeding season, and there is also a level of illegal shooting in Iceland. However, the UK and Ireland are the main wintering grounds for this species, and whilst we are already working on several actions, there are others we can / are being asked to take to ensure that the birds are protected and in the best possible condition while they are in Scotland.

Range States (UK, Ireland, Iceland and Greenland) have convened an Emergency Meeting to address the situation as recommended in the AEWA International Single Species Management Plan (ISSAP)⁴³. NatureScot and JNCC are working together to identify measures and commitments we can make to address the decline.

We are aware that migratory flights of this species path are likely to cross the WDA, particularly due to the proximity of designated sites on Islay / Kintyre.

As such:

- **We require further consideration of impacts to Greenland white-fronted geese through monitoring work (such as radar) as well as analysis of existing tracking data, prior to construction, to provide a better understanding of migration through the WDA and validate Applicant conclusions within the EIA Report.**

Depending on the outcomes of the monitoring, curtailment of turbine operation during key migratory windows could mitigate impacts. However, if monitoring shows that the Greenland white-fronted geese do not pass through the WDA then this would not be required.

D.7 Other impact pathways

It is noted by the Applicant in Paragraph 141 (Chapter 11) that they were unable to access the FeAST tool⁴⁴ as it was not fully functional for seabirds at the time of writing, which we acknowledge.

Collision risk with installed but not commissioned (or decommissioned) WTG and construction vessels, ghost fishing, and collision risk with structures below the water were scoped out of the assessment, which we are content with.

⁴³ International Single Species Management Plan for the Greylag Goose (Northwest/Southwest European Population)

⁴⁴ FeAST Tool: <https://feature-activity-sensitivity-tool.scot/>

D.7.1 Direct distributional responses and displacement during construction and decommissioning

We welcome the Applicant's consideration of a range of impact pathways and note that NatureScot's Guidance Notes 8 and 4⁴⁵, along with project-specific consultation advice, has been used to inform the assessments.

D.7.1.1 Above sea disturbance

It is noted in Paragraph 163 (Chapter 11) that great northern diver, kittiwake, Arctic tern, common tern, guillemot, razorbill, puffin, fulmar and gannet were scoped in for above sea disturbance. Great northern diver was considered to have high sensitivity to disturbance, and the other species were considered to have a medium sensitivity. Given the temporary nature of the activities as well as limited spatial extent, we are content with the negligible magnitude score applied and overall conclusion of not significant.

D.7.1.2 Disturbance associated with subsea noise

Disturbance associated with underwater noise generated through piling activity and UXO clearance have been assessed in Section 11.11.1.4.3.3 (Chapter 11) of the EIA Report.

The Applicant has committed to embedded mitigation through the production of a detailed MMMP to minimise impacts from both piling and UXO clearance. As the impact will be temporary and limited in spatial extent, we are content with the sensitivity and magnitude scoring applied giving an overall conclusion of not significant in EIA terms.

D.7.1.3 Disturbance associated with vessel movements to and from ports

The assessment of potential impacts from vessels transiting to and from ports during construction and decommissioning is provided in Section 11.11.1.4.3.4 (Chapter 11) of the EIA Report.

It is noted that the construction phase may last up to five years and assumes that construction activities may be undertaken 24 hours a day, seven days a week depending on weather conditions. There will be a maximum of 117 construction vessels operating within the WDA at any one time and a predicted 5,699 vessel movements during the entire construction period (round trips to and from port).

The Applicant has provided a literature review to determine disturbance associated with vessel movements to and from ports. Potential port locations are:

- Marshalling and Assembly (Construction): Kishorn, Arnish / Stornoway and Hunterston.
- Marine Operations (Construction): Oban, Port Ellen and Bendoran (Mull).
- Operation & Maintenance: Campbeltown / Machrihanish, King George V (Glasgow) and Hunterston.

The vessel disturbance assessment provided in the EIA Report contains the appropriate detail for the level of information available at this time. Two marine SPAs with wintering waterfowl qualifying species are located within 15 km of the WDA - Coll and Tiree SPA designated for great northern diver and common eider, and West Coast of the Outer Hebrides SPA designated for great

⁴⁵ NatureScot Guidance Note 4 – determining connectivity with marine SPAs and breeding seabirds from colony SPAs in the non-breeding season: <https://www.nature.scot/doc/guidance-note-4-guidance-support-offshore-wind-applications-ornithology-determining-connectivity>

northern diver, black-throated diver, common eider, long-tailed duck, red-breasted merganser and Slavonian grebe. Locations of these ports and indicative transit corridors are provided in Figure 11.2 (Chapter 11), some of which may require vessels to pass through or near these SPAs. In addition, the Clyde Sea Sill NCMPA, which includes breeding black guillemot as a qualifying species may also be impacted by vessel movements.

Embedded mitigation measures are included in Appendix 6 – Outline Environmental Management Plan (EMP). The proposed measures are in line with what we would expect and are appropriate. We note that these measures will be developed further, if consented, and following the implementation of mitigation, we provisionally agree minor adverse effects to sensitive species such as seaducks and negligible effects to species with medium sensitivity both for the proposal alone and cumulatively.

In relation to the RIAA, we advise that it is not possible to fully assess impacts from vessel movements on marine SPAs, as the proposal is not yet able to confirm which ports / harbours will be used to service the proposed wind farm. **We advise that these impacts can later be defined and managed via a VMP. We also advise monitoring of the relevant qualifying species from the marine SPAs to inform the VMP may be required.** We understand that Marine Directorate can secure this via condition and it is helpful to note that this approach has been used for consented offshore wind farms.

D.7.1.4 Vessel movement during Operation and Maintenance

A maximum of 423 vessel round trips are expected for routine operational and planned maintenance activities each year. Although more vessel movements between ports are expected over the duration of the operation & maintenance phase, there will be less vessels present at any one time. Displacement due to vessel movements during the operation & maintenance phase would therefore be temporary and localised. Therefore, we provisionally agree with the overall conclusion of negligible and not significant in EIA terms.

In relation to the RIAA, as advised above, it is not possible to fully assess impacts from vessel movements on marine SPAs, as the proposal is not yet able to confirm which ports / harbours will be used during routine operational and planned maintenance of the proposed wind farm. **We advise that these impacts can later be defined and managed via a VMP. We also advise monitoring of the relevant qualifying species from the marine SPAs to inform the VMP may be required.**

As above, once ports have been selected, this should be shared with NatureScot to discuss further assessment of impacts that will be required.

D.7.2 Indirect disturbance and displacement of prey species (Construction & Decommissioning)

Indirect effects assessed for this potential impact include those resulting from increased suspended sediment concentrations and redistribution, temporary habitat loss and disturbance or the production of underwater noise that may alter the behaviour or availability of prey species. We have reviewed the assessment provided in Section 11.11.1.5 and note the Applicant has concluded impacts are negligible or minor, which is not significant in EIA terms both for the proposal alone and cumulatively. However, **in relation to potential impacts from underwater noise to prey species during construction, we require further information on potential impacts**

to sandeel (see our advice in Appendix E) before we are able to agree with the Applicants' conclusions.

D.7.3 Artificial construction lighting (Construction & Decommissioning)

This impact is assessed in Section 11.11.1.6 of the EIA Report and in Section 6.2.3 of the RIAA (Part 3 Ornithology), and notes that artificial lighting at night (ALAN) may potentially be a source of attraction, disorientation or displacement for birds. Construction is planned to take place 24 hours a day over a period of up to five years and vessels will be lit at night, acknowledging that they will move around the site as construction progresses.

The Applicant highlights that only European storm petrels were recorded in the DAS and that Leach's storm petrel are not connected to the WDA as per tracking research undertaken by the RSPB on St Kilda (Bolton, 2025 unpublished)⁴⁶. We request the Applicant provides this report once published to support this.

European storm petrels were recorded flying within the site with 85 sightings as stated in Table 5.2 of the RIAA, Part 3 Ornithology.

It notes in Section 6.2.3.2.2 of the RIAA that the Applicant was unable to undertake a semi-quantitative assessment of European storm petrel as the abundance estimates are likely to be substantial under-estimates of the true numbers of birds using the WDA. This is because DAS are not effective at detecting storm petrels, largely due to storm petrels being active at night. This is also highlighted in the Furness et al. (2026)⁴⁷ report that the Applicant commissioned as an update to the Deakin et al. (2022)⁴⁸ report.

Manx shearwater were the second most recorded species, as highlighted in Table 5.2 of the RIAA (Part 3 Ornithology), with 11,033 birds recorded sitting or flying within the WDA.

The Applicant undertook a semi-quantitative assessment as requested, evaluating the importance of the WDA for Manx shearwater by comparing the numbers recorded in the DAS to the regional population (Section 6.2.3.2.2 of the RIAA). This highlighted that in terms of regional importance, between 0.16 % - 1.34 % of the population was recorded using the WDA. The Applicant provides further evidence demonstrating that the area is unlikely to be a key foraging or rafting area for

⁴⁶ Bolton, M., Derren, F., Tremlett, C., Wischniewski, S., Franklin, K., Cleasby, I. and Gauld, J. (2025) (publication pending). Tracking of Leach's storm-petrel from St Kilda and European storm-petrel from Treshnish Isles: Final report. Tagging and tracking of seabirds on the west coast of Scotland

⁴⁷ Furness, R.W., Foster, A. and O'Brien, S.H. (2026). Evaluation of seabird attraction to lighting on offshore wind farms. Report by SLR Consulting Ltd and Anatec Ltd to SPR, ESB, NorthLand Power and OceanWinds.

⁴⁸ Deakin, Z., Cook, A., Daunt, F., McCluskie, A., Morley, N., Witcutt, E., Wright, L. and Bolton, M. (2022). A review to inform the assessment of the risk of collision and displacement in petrels and shearwaters from offshore wind developments in Scotland. Report by RSPB, BTO and CEH UK. Scottish Government, Edinburgh.

Manx shearwater – Kober et al. (2010)⁴⁹, Stone et al. (1994)⁵⁰ and Waggitt et al. (2020)⁵¹, whilst noting that the WDA is regularly used by this species.

The Applicant has also presented results from a tagging study that they supported, where Manx shearwaters were tagged on Lunga by the National Trust for Scotland. The figures provided in Annex 11.20 (Manx shearwater tracking work on Lunga in 2025) show that although most tracked bird activity was outside of the WDA, some of the tagged birds were recorded within, confirming connectivity.

It is acknowledged by the Applicant that the study was undertaken over a short period in the breeding season and there were some issues reported with downloading data from the tags. Therefore, we support the statement that further tracking work at different times of the breeding season would give a more complete picture of spatial use for this population of shearwaters.

We appreciate the work the Applicant has undertaken in order to assess potential impacts on Manx shearwater and European storm petrel, particularly on attraction to artificial light.

Furness et al. (2026) found that:

- Petrels and shearwaters are attracted to ALAN almost exclusively on nights with poor visibility (e.g. fog or no moonlight);
- It is almost entirely fledglings that are attracted to ALAN and become grounded or collide with structures;
- Adult shearwaters and petrels tend to avoid ALAN close to their colonies;
- Fewer birds are attracted to lights that are:
 - Of lower intensity;
 - A red light, compared to a white, blue or green light;
 - Flashing, compared to a steady continuous beam.

We welcome the addition of ALAN protocols in Paragraph 76, Appendix 6: Outline EMP. We would also like to see this section of the EMP expanded to include best practice from Australia and New Zealand for the adverse effects of ALAN on birds. In particular:

- Non-essential lights for safety and / or operations are eliminated;
- All essential lights are shielded, angled and / or positioned to only light areas required for operations and safety, and eliminate light spill;
- All essential lights use the lowest intensity as appropriate for operations and safety;
- All essential lights filter light spectra as appropriate for operations and safety (filter out blue / violet wavelengths).

A record of vessel numbers and lighting used should be kept, as well as the standard turbine lighting plan.

⁴⁹ Kober, K., Webb, A., Win, I., Lewis, M., O'Brien, S., Wilson, L.J. and Reid, J.B. (2010). An analysis of the numbers and distribution of seabirds within the British Fishery Limit aimed at identifying areas that qualify as possible marine SPAs. JNCC Report 431.

⁵⁰ Stone, C.J., Webb, A. and Tasker, M.L. (1994). The distribution of Manx shearwaters *Puffinus puffinus* in northwest European waters. *Bird Study* 41:170-180.

⁵¹ Waggitt, J.J., Evans, P.G., Andrade, J., Banks, A.N., Boisseau, O., Bolton, M., Bradbury, G., Brereton, T., Camphuysen, C.J., Durinck, J. and Felce, T. (2020). Distribution maps of cetacean and seabird populations in the North-East Atlantic. *Journal of Applied Ecology*, 57: 253-269.

Gloves should be worn where possible when handling birds and birds should only be handled by a trained Environmental Officer / Observer (or other such suitably trained individual). If possible, the bird should be placed in a box somewhere quiet and undisturbed until it can be released.

We would also recommend an Environmental Officer / Observer is present on board during sensitive chick fledging months (July – October) to monitor for strandings, as well as having a protocol for responding to strandings, with crew fully trained (as discussed in the Outline EMP).

Based on the information provided in the Outline EMP, and the additional mitigation measures highlighted above, we are content to agree minor adverse effects for the proposal alone and cumulatively, which is not significant in EIA terms. However, further iterations of the EMP will need to be provided and agreed. In addition, a monitoring programme to validate the report by Furness et al. (2026) and better understand the impacts from ALAN will be required. This monitoring should be developed, if consented, with input from specialists and agreed between relevant parties.

D.7.4 In-direct habitat loss / change for prey species (Operation & Maintenance)

It is noted in Paragraph 440 that approximately 1.5 % of the WDA is expected to be permanently lost. Great northern diver, auks and tern species are considered to have medium sensitivity to indirect operation and maintenance effects, whereas gulls, petrels, gannet and shearwaters are considered to have low sensitivity. All impacts to prey species are predicted to be localised and thus would not lead to population level effects. Therefore, we agree the overall conclusion for all species is negligible and thus not significant in EIA terms, both for the proposal alone and cumulatively.

D.7.5 Artificial operational lighting

As highlighted in Paragraph 457, most infrastructure lighting will be yellow or red, with the brightest lights being the red, flashing aviation warning lights at up to 2,000 candela. These will be placed in the nacelle (approximately 150 -175 m above sea level) and will be shielded below horizontal so will not be visible to species that fly low over the sea surface. The relevant best practice principles outlined in our advice above (Section D.7.3) should also be followed for the operational and maintenance phase.

It is unclear how much procellariiforms are attracted to the nearby Dubh Artach lighthouse, which has a flashing white light and is visible from 20 nautical miles.

During operation and maintenance, there will be less vessels on site than during the construction and decommissioning phases. These vessels are likely to be smaller and present for less time. These effects are likely to be of negligible magnitude, giving minor adverse effects, which is not significant in EIA terms. However, a monitoring programme, as suggested by Furness et al. (2026) to better understand the impacts from ALAN will be required. This could include monitoring changes at colonies close to the proposal for changes in population size, productivity and adult survival as well as tagging studies to understand behaviour. Given much of this is unknown, some caveats around frequency of reporting, indication of peak risk times and potential adaptation of monitoring may be expected post-consent. We advise the Applicant discusses monitoring programmes with us at the outset, if consented.

D.8 Mitigation

Embedded mitigation measures for offshore ornithology are detailed in Section 11.9 of the EIA Report and it notes that where additional mitigation measures are required to mitigate potentially significant effects, these are detailed in the impact assessment. However, as the Applicant did not conclude any impacts to be significant, no additional mitigation has been proposed.

As noted in our advice, we disagree with the Applicant and have concluded significant adverse effects to guillemot from the proposal alone and cumulatively for kittiwake.

In line with established EIA practice, we expect mitigation to be identified where a significant adverse effect is identified.

Without prejudging the outcome of the Appropriate Assessment, we anticipate, compensatory measures would need to be secured for these species. As such, we consider that agreed compensation measures could be sufficient to address significant effects predicted under EIA.

D.9 Monitoring

Post-consent monitoring of the predicted impacts of a development is necessary to validate the conclusions of the EIA and to further our collective understanding of the effects of offshore developments on the marine environment. As such, we have requested monitoring in our advice above.

Monitoring is also important in understanding the effectiveness of mitigation measures, and to confirm that impacts not requiring mitigation are not causing environmental damage (Scottish Natural Heritage, 2018)⁵².

The continued monitoring of seabird breeding colonies through schemes such as the Seabird Monitoring Programme is also a crucial element of understanding the impact of offshore developments on our seabird populations at the colony level.

As such:

- **Monitoring requirements should be discussed and agreed with Marine Directorate, NatureScot and other stakeholders in respect of EIA and HRA.**

D.10 Transboundary effects

Transboundary effects have been assessed in Section 11.13 of the EIA Report, and it is noted in Paragraph 615 that there is the potential for transboundary cumulative impacts at offshore wind farms outwith UK Waters, in particular those in Republic of Ireland waters. As highlighted above in our advice, we have only considered impacts in Scottish Waters and advise Marine Directorate to seek advice from the relevant SNCB for advice on cross-border and transboundary impacts.

⁵² <https://www.nature.scot/doc/archive/environmental-impact-assessment-handbook-version-5-2018>

NATURESCOT ADVICE ON MACHAIRWIND OFFSHORE WINDFARM

Appendix E – Fish and Shellfish Ecology

Fish (including basking shark) and shellfish ecology interests are considered in Chapter 9 (Volume 2) of the EIA Report and the following relevant supporting appendices and documents:

- Volume 3c, Appendix 9.1: Fish (including Basking Shark) and Shellfish Baseline Technical Report
- Volume 3c, Appendix 10.1: Underwater Noise Modelling Report
- Volume 3a, Appendix 8: Invasive Non-Native Species Mitigation Plan
- Supporting Document: Nature Positive Plan
- Report to Inform Marine Protected Areas Assessment
- Report to Inform Appropriate Assessment
- Chapter 12: Commercial Fisheries (which we have reviewed in the context of characterisation only)

In addition, we note information provided within the MachairWind WDA Scoping Report (Appendix E - Environmental DNA Survey Interpretative Report - SCOP0057) ⁵³ is referenced within the EIA Report but is not included within the Technical Appendices.

Our interest in fish and shellfish species is as key prey species (such as herring, sandeels etc.) as well as fish Priority Marine Features (PMFs) and protected features of designated sites. The Applicant has provided a Report to Inform Marine Protected Areas Assessment in relation to the Sea of the Hebrides NCMPA basking shark protected feature as well as the Loch Sunart to the Sound of Jura NCMPA flapper skate protected feature. We provide advice regarding potential impacts to these NCMPAs within Section E.9 of this Appendix.

On review of Chapter 9, we note that supporting narrative to inform the Applicant's conclusions is generally brief and becomes increasingly high-level as the assessment progresses. There are various instances in which references have not been provided to support key statements. On several occasions the reader is directed to the incorrect Figure or Table, often in supporting appendices, impacting the readability and flow of information within the Chapter. Further consideration to conveying key pieces of information to the reader efficiently and concisely would have been welcomed - for example, inclusion of a summary table for potential impacts scoped in / out without requiring navigation to the Scoping Report would have aided readability.

The assessment for fish and shellfish ecology concludes no significant impacts, both alone and cumulatively. We broadly agree with most of the conclusions regarding significance in EIA terms, however, there are elements of the assessment that we do not support and further information is requested.

In addition, for some other impact pathways and receptors we do not agree with the sensitivity and magnitude scores assigned by the Applicant. However, in most instances this does not change either the outcome of the assessment or the overall conclusion of our advice. Further comments and advice are provided below.

⁵³ https://marine.gov.scot/sites/default/files/241001_-_machairwind_-_scop-0057_-_appendix_e_-_environmental_dna_survey_interpretative_report_-_developer_to_md-lot.pdf

E.1 Study area

As illustrated in Figure 9.1, a local study area and regional study area have both been defined. The study areas are appropriate and have been informed by ICES rectangles as well as the maximum spring tidal excursion (local study area) and underwater noise modelling (regional study area).

E.2 Baseline characterisation

Detailed baseline characterisation is set out within Appendix 9.1: Fish (including Basking Shark) and Shellfish Baseline Technical Report (Volume 3c). Existing desktop and site-specific data have been reviewed to inform the baseline characterisation for fish and shellfish ecology, and we are content this provides a sufficient approach to characterising the baseline environment to inform the EIA. All relevant species have been included and PMFs identified.

E.2.1 Methods

As detailed in Appendix 9.1 an extensive list of appropriate datasets and information sources have been used to characterise the baseline.

Third-party and site-specific survey data including drop-down video and grab sampling have been considered in characterising the benthos. Sediment particle size distribution analysis has been undertaken using third-party data and considered in the context of habitat suitability for herring and sandeel, habitat assessments for these species are presented in Figures 1.11 and 1.12.

In addition, DAS results have been considered in relation to the presence of basking shark.

E.2.1.1 eDNA sampling

Environmental DNA (eDNA) samples were collected during the proposal's site investigation survey campaign. However, this has not been considered within the baseline characterisation.

The Applicant refers to the Scoping Report Appendix E: Environmental DNA Survey Interpretative Report. Whilst not considered for the baseline, this report was useful to review alongside the Appendix 8.2 to see which species were being detected in the area and it supports the species included as receptors within the EIA Report.

Although it is an emerging technique, we consider eDNA analysis to add value. For example, by improving identification of species that difficult to detect using traditional survey methods including cryptic species and non-native species. For future Applicants, we recommend that inclusion of eDNA sampling be considered in addition to traditional survey methods, and findings used to help contextualise the baseline.

E.2.2 Sandeel

The Applicant acknowledges that the local study area supports 'preferred' sandeel habitat and a sandeel habitat assessment is provided in Figure 1.12 (Appendix 9.1). This assessment overlays EMODnet data with results from Particle Size Distribution (PSD) analysis undertaken using third-party data collected within the Option Agreement Area (OAA) and indicates that 'preferred' sandeel habitat is present across the OAA and WDA. As discussed in Section 1.4.3.2, PSD samples were predominantly classified as 'sand' with 'gravelly sand', 'muddy sand', 'sandy gravel' and 'gravel' also recorded. It is also noted that sandeel were recorded in both third-party grab samples and proposal-specific drop-down video.

Desk-based information in relation to sandeel spawning grounds and nursery grounds is discussed in Table 1.5. The local study area overlaps with an undetermined intensity spawning ground and nursery ground (Coull *et al.*, 1998), and a low intensity nursery ground (Ellis *et al.*, 2012) as illustrated in Figure 1.3 and Figure 1.4 (Appendix 9.1).

Figure 1.13 presents heat-maps from modelled data by Langton *et al.*, 2021 (available on NMPI) showing predicted probability of buried sandeel presence and predicted density of buried sandeels in the Celtic Seas. Overlap is shown between modelled data and the WDA boundary; however, minimal discussion of these predictions has been provided within the Baseline Technical Report or EIA Report.

While the extent of ‘preferred’ sandeel habitat within the local study area is discussed within the Baseline Technical Report, this is not necessarily reflected within the EIA Report and in some instances is downplayed within the assessment of impacts – particularly in relation to the potential impacts from underwater noise. We provide further advice below in Section E.4.1.1.

E.2.3 Basking shark

Basking shark are discussed in Section 1.4.4 of the Baseline Technical Report. The Applicant has considered appropriate literature and sightings data, in-line with those recommended at Scoping. Data from other developer surveys undertaken between 2009 and 2012 is also discussed.

Basking shark presence has also been recorded in DAS, although this survey campaign was primarily undertaken to inform the offshore ornithology and marine mammal assessment. Third-party DAS provides data from surveys conducted over a 16-month period between October 2020 and January 2022 and project-specific DAS undertaken for a 30-month period between April 2021 and September 2023 (see Appendix 9.1, Table 1.2). The third-party DAS recorded seven basking sharks in May 2021. Project-specific DAS recorded eight basking sharks between April 2021 and April 2023.

The Applicant acknowledges several limitations in relation to characterising basking shark abundance from DAS, as basking shark are not required to surface in order to breathe. We recognise the difficulties and uncertainties associated with estimating basking shark abundance and density effectively.

The WDA is sited approximately 4.4 km south of the Sea of the Hebrides NCMPA, which includes basking shark as a protected species. We provide advice in relation to the Sea of the Hebrides NCMPA and the Applicant’s Report to Inform Marine Protected Areas Assessment below in Section E.9.

E.3 Approach to assessment

The approach to assessment for fish and shellfish ecology is generally acceptable and mostly as expected following the Scoping Report. However, there are elements of the impact assessment that we do not support, and we provide further commentary and advice below.

E.3.1 Receptor groups

The species assessed have been categorised into receptor groups. Whilst this is an accepted approach, we consider the resulting assessment to be generalised and high-level. Chapter 9 does not provide a clear summary of the receptor groups and species considered. Instead, in order to follow and appraise the assessment it has been necessary to cross-reference between several

sections of Chapter 9 and Appendix 9.1: Fish (including Basking Shark) and the Shellfish Baseline Technical Report.

As described in Section 9.10.1.1 the receptor groups include elasmobranchs, demersal fish, and pelagic fish. Shellfish and diadromous fish have also been assessed and are discussed throughout the Baseline Technical Report and Impact Assessment. The species considered within each receptor group are referred to in narrative across Appendix 9.1: Fish (including Basking Shark) and Shellfish Baseline Technical Report (e.g. Section 1.4 which provides an account of pelagic fish, demersal fish and shellfish species in the local study area).

E.3.1.1 Ocean quahog

Ocean quahog have been included within the shellfish receptor grouping and is therefore assessed within the impact assessment for fish and shellfish. However, ocean quahog is also considered and assessed within Chapter 8: Benthic Ecology.

Our advice in relation to ocean quahog is predominantly provided in Appendix F, however, we also provide further comments and advice below in Section E.4.1 – noting there are potential implications for the conclusions presented for the shellfish receptor grouping in Chapter 9.

E.3.2 Potential impacts scoped in

Table 9.5 sets out the impacts that have been scoped in for assessment. For completeness, it would have been useful for the EIA Report to also include a table of impacts that were scoped out of the assessment.

We consider the impact pathways included to be appropriate, with the exception of how fish aggregation has been considered within the Applicant's consideration of introduction of hard substrates – we provide advice on this potential impact below in Section E.4.3.

E.3.3 Underwater noise modelling

The assessment of potential impacts on fish ecology receptors from underwater noise has been informed by the supporting Underwater Noise Modelling Report (Appendix 10.1, Volume 3c). We consider the underwater noise modelling approach presented in Appendix 10.1 to be appropriate and this applies recognised assessment criteria for fish (Popper *et al.*, 2014).

E.3.4 Significance of effect

E.3.4.1 Sensitivity and magnitude scoring

The Applicant's definitions for sensitivity and magnitude scoring (Table 9.7 and Table 9.8) are generally appropriate. However, it is noted that the descriptions of magnitude are very similar between negligible and low.

We note some instances in which the assessment itself deviates from the definitions provided. For example, tolerance has been discussed within the assignment of magnitude rather than sensitivity, and spatial context has been considered within sensitivity rather than magnitude. There are also instances where the assessment discusses significant impacts on the receptor prior to assessing sensitivity. However, we do not consider these discrepancies to affect the overall conclusions of the impact assessment fish and shellfish.

In some instances, we disagree with the sensitivity and magnitude scores assigned by the Applicant and further advice is provided below in Section E.4.

E.3.4.2 Significance matrix

We accept the significance matrix approach as presented in Table 9.9, noting that this matrix is relatively conservative in comparison to matrices we have seen in other EIA Reports, which often tend to be heavily weighted towards minor or negligible outcomes. The approach applied by the Applicant is welcomed.

Whilst we do not support some of the sensitivity and magnitude scores assigned by the Applicant, we are mostly in agreement regarding the overall conclusions of significance presented. With two exceptions as previously highlighted and discussed below in Section E.4.

E.4 Impact assessment

As highlighted above, there are elements of the impact assessment that we do not support, and we provide advice and comments as follows.

We also note that there are inconsistencies between the conclusions presented in Section 9.11 (Assessment of Significance) and those summarised in in Table 9.31 of Section 9.16 (Summary). Where there are discrepancies, we have considered the more precautionary conclusion in our appraisal.

E.4.1 Sensitivity and magnitude scoring

On review of Chapter 9, there are instances in which we conclude differing sensitivity and magnitude scores to those assigned by the Applicant and we summarise this below in Table E1.

In relation to ocean quahog, the scoring considered in our appraisal would bring the assessment of impacts in-line with those in Chapter 8 and our advice on Benthic Ecology as per Appendix F.

However, noting the approach taken in the significance matrix, we support the Applicant's overall conclusions of not significant in EIA terms for these impacts and receptors. With the exception of Impact 3: UWN and vibration, where further consideration of magnitude of is required.

*Table E1. NatureScot appraisal of sensitivity and magnitude, with differing conclusions indicated in red. We highlight where our appraisal is in relation to a specific species, see bold italics and * indicates that ocean quahog has also been assessed within Chapter 8: Benthic Ecology.*

Impact	Phase	Receptor	EIA Report Assessment		NatureScot Appraisal	
			Sensitivity	Magnitude	Sensitivity	Magnitude
Temporary physical disturbance / habitat loss	All (Construction, Operation & Maintenance, Decommissioning)	Shellfish - <i>ocean quahog*</i>	Medium	Negligible	High	Negligible
Increased SSCs and	All (Construction,	Spawning Grounds –	High	Negligible	High	Low

sediment redeposition	Operation & Maintenance, Decommissioning)	herring & sandeel				
		Spawning grounds – other spp.	Medium	Negligible		Low
		Nursery grounds	Medium	Negligible	Medium	Low
		Shellfish	Medium	Negligible	Medium	Low
UWN and vibration	Construction	Spawning grounds - Herring (group 4)	Medium	Low	High	Low
		Pelagic Fish, Demersal Fish, Elasmobranchs - Sandeel	Medium	Low	Medium	Additional information requested
Permanent habitat loss	Operation & Maintenance	Shellfish - ocean quahog*	Medium	Negligible	High	Low
Introduction of hard substrate	Operation & Maintenance	Shellfish - ocean quahog*	Medium ⁵⁴	Negligible	High	Negligible

E.4.2 Underwater noise and vibration (Impact 3) – sandeel

The Applicant has concluded a minor adverse effect for sandeel from underwater noise and vibration during construction, on the basis of a medium sensitivity and low magnitude. We support the sensitivity score of medium however, we do not support the rationale provided in relation to the conclusion of low magnitude.

Paragraphs 192-195 suggests that areas of higher-probability habitat for sandeel occur mostly outside mortality, injury and Temporary Threshold Shift (TTS) ranges, on the basis of the modelled SELcum contours and habitat predictions from Langton *et al.*, 2021 - as presented in Figure 9.4. However, we consider this understates the potential impacts to sandeel. As highlighted above,

⁵⁴ Sensitivity of 'medium' is listed in Table 9.31, this differs from the narrative provided in Section 9.11.1.10.1.5 and Table 9.22.

the baseline characterisation indicates that ‘preferred’ sandeel habitat is present throughout the WDA.

Figure 9.4 indicates the modelled contours for mortality and injury from the four representative points modelled. However, the Applicant has not considered the modelling outputs in the context of the total number of WTG’s proposed across the WDA i.e. the whole extent of suitable sandeel habitat potentially impacted by underwater noise. We advise that the injury contours, as predicted by modelling, could affect a meaningful proportion of the local population of sandeels within the WDA.

Furthermore, we note that Figure 9.4 shows the modelled noise contours from the North East modelling location to overlap with an area of ‘More Probable’ presence of buried sandeel (Langton *et al.*, 2021) and undetermined intensity spawning grounds (Coull *et al.*, 1998).

Overall, we do not consider the narrative and conclusions to sufficiently reflect the extent of suitable sandeel habitat within the WDA.

As such:

- **Re-assessment of underwater noise impacts to sandeel is required, including a review of the magnitude scoring and spatial overlap with suitable as well as ‘preferred’ sandeel habitat.**

E.4.3 Underwater noise and vibration (Impact 3) - Basking Shark

E.4.3.1 Barotrauma risk

Basking sharks are correctly placed in Popper *et al.* (2014) Group 1, meaning they detect particle motion rather than sound pressure and are therefore among the least sensitive species to pressure-based auditory injury. However, this does not mean they are immune to barotrauma. Barotrauma is a mechanical effect, caused by rapid pressure changes rather than sensory detection, and can occur even in species without swim bladders. The EIA states that basking shark are highly mobile and that soft-start and ramp-up procedures should give individuals time to move away before high pressures occur. This assumption requires caution: if basking shark are not sensitive to pressure, they may not perceive the early stages of piling as a cue to move away, meaning mobility alone does not guarantee avoidance.

This creates a potential mismatch between the mitigation mechanism proposed and the species’ sensory ecology. Soft-start only reduces risk if individuals detect the initial low-level piling and respond behaviourally. For basking shark, which rely on particle motion and may not detect pressure-based cues at low levels, there is a plausible scenario in which individuals remain within the footprint until higher pressures occur. In such cases, barotrauma could occur despite low auditory sensitivity. While the overall risk remains low due to the species’ mobility and the limited spatial extent of SPL_{peak} injury zones, the EIA should have acknowledged that low pressure sensitivity does not equate to low barotrauma risk, and that avoidance cannot be assumed solely on the basis of mobility.

E.4.3.2 Particle motion

Particle motion has not been adequately assessed in the EIA assessment despite agreement during pre-application engagement that it would be considered qualitatively for relevant (Group 1) species. We acknowledge this is challenging because empirical data, modelling approaches and

regulatory thresholds for this pathway are still limited and note reference to this in the underwater noise modelling report (Appendix 10.1, Volume 3c). However, for basking sharks this omission is important. As elasmobranchs, they detect underwater sound primarily through particle motion rather than sound pressure, meaning their behavioural responses are driven by low frequency hydrodynamic cues generated by piling, drilling and vessel activity. This creates a realistic potential for disturbance or displacement even when pressure-based modelling suggests low risk. By relying solely on sound pressure metrics, the EIA could underestimate the true acoustic exposure pathway for basking sharks.

Despite this, we consider the risk of barotrauma to be low and largely restricted to the near-field. As such we agree there will be no significant effect in EIA terms although we acknowledge that this conclusion has some associated uncertainty.

Particle motion has been identified as a key evidence gap by ScotMER. As such, and in light of our conclusion above, **we request that the proposal, if consented, explores opportunities to contribute to emerging research in this field, especially given the proximity of the WDA to the Sea of the Hebrides NCMPA, where basking shark are a designated feature.**

E.4.4 Permanent habitat loss (Impact 8)

Permanent habitat loss has been considered as part of the operation and maintenance phase only, despite these impacts beginning to occur during construction and potentially continuing during and after decommissioning. At Scoping this approach was accepted given uncertainties around decommissioning. In-line with our advice on benthic ecology interests (see Appendix F), we highlight our expectation that this impact should be considered further within the decommissioning plan.

E.4.5 Introduction of hard substrate (Impact 10)

The Applicant states (Table 9.2) that potential impact of fish aggregation, around WTGs and other hard infrastructure, has been included within the assessment of the impact ‘introduction of hard substrate’. We do not agree that the impact of fish aggregation has been sufficiently assessed.

The assessment of significance for this impact (Section 9.11.1.10) briefly outlines that hard structures could serve as fish aggregation points and may attract predators (Paragraph 382 and 383). However, no further discussion regarding the impacts of fish aggregation is included. No assessment of the sensitivity, magnitude or significance for any receptor group relevant to this impact has been undertaken.

As such:

- **The potential impact of fish aggregation should be assessed with clear and thorough consideration of sensitivity, magnitude and significance for relevant receptor groups - including diadromous fish.**

E.4.6 Interactions with Electromagnetic fields (EMF) (Impact 9)

Section 9.11.1.9.1 discusses potential for impacts to fish and shellfish receptors from EMFs from subsea cabling. The total length of cabling proposed within the WDA is approximately 1,044 km, which includes inter-array, offshore substation platform links and offshore export cables. As noted in Paragraph 340, the cable minimum burial depth will be between 0.3 m and 3.0 m but typically between 1.0 and 2.0 m. For any cables buried less than 1.0 m, cable protection will be

required, and the Applicant has estimated this to be up to 25 % of the total cable length, as a worst-case scenario. We agree that the risk of exposure to EMF is lower for the buried portions of cable but highlight that a burial depth of 1 – 2 m is preferable.

Given the potential EMF levels and proposed minimum burial depth of 0.3 m, we consider the magnitude should be revised from negligible to low. However, noting the significance matrix, we are in support of the Applicant's conclusions of not significant for all impacts to fish and shellfish receptors, despite our differing magnitude scores.

As our collective understanding of EMF effects remains poor, particularly in relation to in-field measurements of EMF and potential impacts to sensitive receptors (such as elasmobranchs including basking shark). In line with other recently consented offshore wind farm proposals, **we advise that monitoring of EMF should be considered to validate predicted EMF effects.**

E.4.7 Inter-related and interacting impacts (Section 9.14)

Tables 9.27, 9.28, and 9.29 outline potential impacts that interact with each other. Little narrative is provided and so the rationale for some conclusions is unclear, for example:

The Applicant has concluded Impact 6: INNS and Impact 10: Introduction of Hard Substrate to have no potential interaction. We disagree and consider there to be a potential interaction between these impacts as INNS could settle on introduced hard substrate. This is of relevance to the Invasive Non-Native Species Mitigation Plan (M-9).

Impact 9: Electro-Magnetic Fields are listed as having a potential interaction with both Impact 7: Changes in Fishing Activity and Impact 8: Permanent Habitat Loss. The potential interaction between these impacts is not immediately clear and should be clarified, noting this appears inconsistent with the conclusions of interactions provided within Chapter 8: Benthic Ecology.

As such:

- **Clarification is requested on the rationale for the potential interaction between Impact 9 (EMF) with Impact 7 (Changes in Fishing Activity) and Impact 8 (Permanent Habitat Loss).**

E.5 Cumulative effects

The cumulative impact pathways for fish and shellfish receptors have been identified in Table 9.24.

We note that Impact 4: Disturbance and Displacement of Basking Shark and Impact 5: Vessel Collision for Basking Shark have been screened out of the CEA. Considering the Applicant's methodology for CEA we would have expected these impacts to be screened in for further consideration. However, in this instance we do not consider there to be a significant cumulative impact to basking shark in EIA terms.

Overall, for potential cumulative impacts to fish and shellfish receptors we support the Applicant's conclusion of not significant in EIA terms.

E.6 Mitigation

As all impacts have been assessed as not significant, no additional mitigation measures are proposed beyond the embedded mitigation outlined in Table 9.9, which is largely the production of and adherence to post-consent plans and programmes. These plans themselves do not

constitute mitigation; however, we are content that embedded mitigation within them is in line with similar developments, and therefore we accept this.

As stated at Scoping, we advise that any mitigation for marine mammals should also be applied to basking sharks.

E.6.1 Invasive Non-Native Species Mitigation Plan (M-5)

The INNS Mitigation Plan (Appendix 8, Volume 3a) includes detail in relation to identifying the risks to the introduction of INNS and proposed control measures.

We highlight that a new report by SAMS commissioned by ScotMER regarding '*Invasive non-native species mitigation measures for offshore renewables*' is soon to be published and we recommend that the Applicant consults this and modifies their Marine Invasive and Non-Native Species Biosecurity Plan once available.

E.6.2 Piling Noise Mitigation Plan (M-6)

Table 9.6 lists a Piling Noise Mitigation Plan as an embedded mitigation measure relevant to fish and shellfish, which is to be developed in accordance with Appendix 9: Draft MMMP.

We note that a 10 dB noise reduction is referred to within the draft MMMP as "*some form of embedded and/or additional mitigation*". In addition, the Underwater Noise Modelling Report states "*When considering noise reduction from mitigation, a nominal 10 dB reduction was included as an achievable figure, although specific systems to be implemented are not yet determined*". Although piling sleeves, hydro sound dampers or hammer attachments are provided as potential examples to achieve this, there is no firm commitment to the measure(s), and it is not clear how this would be achieved.

In addition, we have advised in Section E.4.2 a re-assessment of underwater noise impacts to sandeel is required, to determine if underwater noise could have a significant effect on sandeels.

As such:

- **Additional information should be provided for mitigation that is relied upon in making conclusions of significance, including how such measures will mitigate the effects and the effectiveness and degree of confidence that can be placed on such measures.** This may form part of a Fish Mitigation Plan. This plan, if required, should consider impact pathways during key life history stages for sandeel (spawning / winter hibernation) and whether scheduling of works would be of benefit in minimising impacts e.g. a seasonal restriction for piling.

E.6.3 Draft Marine Mammal Mitigation Protocol (MMMP; Appendix 9)

The draft MMMP is not listed as an embedded mitigation measure in Table 9.6 but is referred to within other embedded measures and in Chapter 9. We note that Section 1.3 of the draft MMMP states that mitigation measures will also be applied to basking shark.

Soft-start and ramp-up are discussed within the MMMP and included as embedded measures in Table 1.1. We reiterate our advice provided above in relation to underwater noise and vibration (Impact 3). As discussed above in Section E.4.3, the Applicants assumption that soft-start and ramp-up procedures should give basking sharks time to move away before high pressures occur requires some caution. This is because if basking shark are not sensitive to pressure, they may not

perceive the early stages of piling as a cue to move away, meaning mobility alone does not guarantee avoidance.

E.6.4 Nature Positive Plan

We welcome the Applicant's consideration and inclusion of a Nature Positive Plan. The Nature Positive Plan includes possible options under consideration by the Applicant, including habitat pipes and standalone structures. In general, our preference would be for infrastructure design-based measures where feasible, rather than those which introduce additional hard structures onto the seabed. Consideration of impacts to other receptors may also be required, for example, increasing the risk of marine invasive non-native species, as well as the ability for future decommissioning. NatureScot can provide further advice on the Nature Positive Plan following refinement if required.

E.7 Monitoring

No monitoring has been proposed in relation to fish and shellfish interests on the basis that all impacts are assessed as not significant.

However, Section 9.15 states that *"the Applicant acknowledges the need for strategic, coordinated research to address current knowledge gaps regarding diadromous fish and supports the principle that developers should work together to fund strategic monitoring efforts. The Applicant is committed to working with stakeholders and welcomes further engagement with FMS (Fisheries Management Scotland) and other relevant bodies to explore opportunities for strategic research and monitoring."*

The Applicant has not confirmed their engagement with any research projects or committed to any monitoring, only acknowledges that it is needed for diadromous fish. The Applicant has not identified, acknowledged, or committed to further research on other receptor groups, where there are still large knowledge gaps, for example, the impact of particle motion barotrauma on receptors that cannot detect sound pressure (e.g. elasmobranchs such as basking shark). We encourage developers to engage in all ScotMER research projects.

We understand that the ScotMER project 'A Targeted Approach to Characterising EMF from Subsea Cables and Understanding Potential Impacts on Fish and Benthic Species' is due to report shortly. Recommendations from this report should be considered for inclusion in any relevant cable plans post-consent, where applicable. In addition, as noted above, we advise that monitoring of EMF should be considered to validate predicted EMF effects and to contribute to gaining better understanding of particle motion.

E.8 Transboundary and cross-border impacts

The Applicant concludes there to be transboundary effects from underwater noise during the construction phase, as the ZOI has a maximum range of 88 km and extends into Irish waters. The significance of this transboundary effect is concluded as minor adverse and not significant in EIA terms.

Given the extent of this ZOI and potential transboundary impacts in Irish waters, further advice should be sought from An Bord Pleanála and/or National Parks and Wildlife Service, as appropriate.

Advice should also be sought from the Department of Agriculture, Environment and Rural Affairs (DAERA) in relation to potential cross-border impacts in Northern Irish waters.

E.9 Report to Inform Marine Protected Area Assessment

E.9.1 Sea of the Hebrides NCMPA - Basking shark

The Sea of the Hebrides NCMPA is located approximately 4.3 km to the north of the proposal and includes basking shark as one of its protected features. The NCMPA provides protection for high densities of basking sharks and protects important areas for feeding and social, group and courtship like behaviours.

Given the proximity to the NCMPA, agreement was reached during pre-application engagement that the Applicant would screen in basking shark for further assessment. For the purposes of the NCMPA assessments basking shark are only protected when they are within the site and as such the assessment should consider any activities that take place within or outside the NCMPA that could potentially kill or injure basking sharks in the MPA, as well as any activity that has the potential to reduce access to resources or cause disturbance of basking shark in the NCMPA⁵⁵.

Table 2.1 sets out those impact pathways screened in and out, which we largely agree with. Our appraisal, as outlined below, considers the two legislative tests relevant to NCMPTAs. For each of the three impacts screened in, we consider whether the proposed development is capable of affecting, other than insignificantly, the protected basking shark feature of the NCMPTA. Advice is therefore provided below on the second test for each impact pathway in turn.

E.9.1.1 Suspended Sediment Concentration resulting in potential reduction in prey species

Based on the extent and maximum concentrations of suspected sediment predicted by dispersal modelling (Appendix 7.1, Volume 3c) and noting the limited degree of overlap with the NCMPTA, we agree there is no significant risk of hindering the Conservation Objectives of the site.

E.9.1.2 Vessel collision and disturbance

Basking sharks may be at risk of collision / disturbance from vessels. They are less likely to detect small faster vessels that emit higher frequency sound. Port selection and transit corridors have not been confirmed at this stage and as such indicative scenarios are provided which includes options that transit through the NCMPTA on route to the WDA during construction.

In reviewing Section 9.9 (embedded mitigation) and the outline Environmental Management Plan (Appendix 6, Volume 3a) we note the commitment to adhere to the principles within the Scottish Marine Wildlife Watching Code⁵⁶ as well as the Basking Shark Code of Conduct⁵⁷, although there is no mention of mitigation within the outline Vessel Management Plan and Navigational Safety Plan (Appendix 13, Volume 3a). Furthermore, it is noted that the mitigation measures set out within the draft MMMP are also to be applied to basking shark. We highlight that ensuring there is

⁵⁵ <https://www.nature.scot/sites/default/files/nature-conservation-mpa/10474/conservation-and-management-advice.pdf>

⁵⁶ <https://www.nature.scot/professional-advice/land-and-sea-management/managing-coasts-and-seas/scottish-marine-wildlife-watching-code>

⁵⁷ <https://www.sharktrust.org/basking-shark-code-of-conduct>

sufficient personnel onboard to observe any basking shark presence, especially during May to October, will be important to ensure the efficacy of these mitigation measures.

Providing suitable mitigation measures are secured, as above, we agree there is no significant risk of hindering the Conservation Objectives of the site.

E.9.1.3 Underwater noise

Section E.4.3 above sets out our consideration of underwater noise impacts to basking shark under EIA, noting they detect underwater sound primarily through particle motion rather than sound pressure. As such, there remains a low risk from barotrauma particularly as traditional underwater noise mitigation measures such as a soft-start may not be effective for this species, and that reliance on pressure-based modelling could underestimate the true acoustic exposure but this is largely unknown.

Based on the information available, and the anticipated near-field nature of the low barotrauma risk, we agree there is no significant risk of hindering the Conservation Objectives of the site. However, the scale of the proposal and its location to the south of the NCMPA is such that basking sharks could pass through the WDA while migrating northwards to important areas within the NCMPA. As such, we request that the Applicant explores opportunities to better understand particle motion as discussed above.

E.9.1.4 Cumulative effects

Although the assessment of cumulative effects provided in Section 6.3.1 is very high level, we agree there is no significant risk of hindering the Conservation Objectives of the site - noting that this conclusion is reached with the inclusion of mitigation and monitoring as discussed above.

E.9.2 Loch Sunart to the Sound of Jura NCMPA - Flapper Skate

Loch Sunart to the Sound of Jura NCMPA is located approximately 45 km to the east of the proposal and includes flapper skate as one of its protected features. The NCMPA provides protection for this critically endangered species. For the purposes of MPA assessments flapper skate are only protected when they are within the site. Any activities that take place within or outside the ncMPA that could potentially kill or injure flapper skate in the NCMPA should be considered together with any activities, whether they take place within or outside the NCMPA, if they have the potential to reduce access to resources within the NCMPA by flapper skate.⁵⁸

Table 2.2.3 sets out the impact pathways screened in and out of the assessment. Despite the limited justification provided, we are content with underwater noise being the only impact screened in. Our appraisal, as outlined below, considers the two legislative tests relevant to NCMPTAs and we consider the proposal is capable of affecting, other than insignificantly, the protected flapper skate feature of the MPA. Advice is therefore provided below on the second test below.

E.9.2.1 Underwater noise

⁵⁸ <https://www.nature.scot/sites/default/files/nature-conservation-mpa/10418/conservation-and-management-advice.pdf>

Table 7.2 considers which impacts would have the potential to hinder each of the ‘Conservation Objectives’ but omits two of these:

- Ensure flapper skate within the NCMPA are not at significant risk from injury or killing
- Conserve the distribution of flapper skate within the site by avoiding significant disturbance

Overall, we note that little consideration has been given to advice provided within the Conservation and Management Advice document for Loch Sunart to the Sound of Jura NCMPA. However, reviewing the assessment provided we agree there is no significant risk of hindering the Conservation Objectives of the site. We reach this conclusion based on the distance from the WDA to the NCMPA, the low risk of underwater noise to this Group 1 (Popper et al., 2014) species, together with our understanding of site fidelity and the largely resident nature of flapper skate within the site.

E.10 Report to Inform Appropriate Assessment (RIAA)

Section 4.2 of the RIAA Part 1 sets out that no European sites designated for fish interests (Annex II species) were advanced through to the RIAA stage. This is consistent with the HRA Screening Report and our advice at the Screening stage.

At Scoping we advised that for diadromous fish species there is limited knowledge of distribution and behaviour of these species in the marine environment and thus it is not possible to carry out an assessment of impacts to diadromous fish to the level required under HRA. As such, we advised that diadromous fish species should be assessed through EIA only and not through HRA. We are content with the Applicants conclusions under EIA that there is no significant impact on diadromous fish.

We note that Section 4 also discusses the Loch Creran SAC and horse mussel beds. The qualifying feature for the Loch Creran SAC is Annex I reefs (including serpulid reefs, horse mussel beds and rocky reefs). This SAC was not considered in Section 4.1 of the RIAA Part 1 which discusses sites designated for Annex I habitats. The rationale for discussion of Loch Creran SAC within Section 4.2 is unclear. However, we do not consider there to be connectivity to the protected features of this SAC from the proposed development and as such we are content that no further assessment is required.

NATURESCOT ADVICE ON MACHAIRWIND OFFSHORE WINDFARM

Appendix F – Benthic ecology

Benthic interests are considered in are considered in Chapter 8 (Volume 2) and the following relevant supporting documents:

- Volume 3c, Appendix 8.1: Habitat Assessment Report
- Volume 3c, Appendix 8.2: Benthic Characterisation Report
- Volume 3c, Appendix 8.3: Geophysical and Habitat Interpretative Report
- Volume 3a, Appendix 8: Invasive Non-Native Species Mitigation Plan
- Supporting Documents: Nature Positive Plan

In addition, we note further supporting information provided within the MachairWind WDA Scoping Report, as referenced within the EIA Report but not included within the Technical Appendices:

- Appendix B - Third-Party Benthic Subtidal Survey Interpretative Report - SCOP0057 (Briggs 2024)⁵⁹
- Appendix E - Environmental DNA Survey Interpretative Report - SCOP0057⁶⁰

The assessment for benthic ecology concludes no significant impacts, both alone and cumulatively, which we support. In this Appendix, we provide comments and advice which addresses elements of the assessment process but does not affect the outcome of the assessment or the overall conclusion of our advice.

Overall, Chapter 8 would have benefited from additional tables and maps to convey key pieces of information efficiently and concisely. For example, a table of impacts scoped in and out for each phase, a map of projects being scoped into the CEA, and a map with greater detail of survey results. Despite this, we are content that Chapter 8 and supporting appendices provide an appropriate level of detail in relation to our interests.

F.1 Study area

The benthic ecology study area has been defined by the maximum tidal excursion⁶¹. As illustrated in Figure 8.1, the study area encompasses the WDA and a buffer ranging from 4 km to 11 km from the WDA boundary. We are content with this approach, noting the study area has been updated since scoping, as the WDA has been refined and encompasses the Zone of Influence (Zoi) relevant for benthic interests.

F.2 Baseline characterisation

Existing desktop and site-specific data have been reviewed to inform the baseline characterisation for benthic ecology. Species and habitats of conservation value have been identified and considered, including Scottish Priority Marine Features (PMFs) and Annex I reef.

F.2.1 Site-specific surveys

⁵⁹ https://marine.gov.scot/sites/default/files/appendix_b_0.pdf

⁶⁰ https://marine.gov.scot/sites/default/files/241001_-_machairwind_-_scop-0057_-_appendix_e_-_environmental_dna_survey_interpretative_report_-_developer_to_md-lot.pdf

⁶¹ As discussed in Chapter 7: Marine Physical Environment.

As summarised in Table 8.4, data from two benthic surveys has been utilised for baseline characterisation; these site-specific datasets comprise third-party data⁶² and project-specific site investigation surveys.

The data collection methods for baseline characterisation generally follow standard methodologies for benthic and environmental sampling, providing a sufficient approach to characterising the baseline environment to inform the EIA.

F.2.1.1 Ocean quahog

Section 8.8.1.3 discusses the presence of ocean quahog as recorded within the third-party survey data, in which 13 individuals are recorded (see Scoping Report Appendix B: Third-Party Benthic Subtidal Survey Interpretive Report).

Findings from both the third-party survey and project-specific surveys are illustrated in Figure 8.3. While this map shows the location of sample locations that detected live ocean quahog, little detail is provided in Chapter 8 in relation to life stage of individuals or what the survey method was (e.g. DDV or grab samples). Further detail is instead provided within Appendix 8.2 and Appendix 8.3, however, neither technical appendix contains the information required to easily cross-reference with the samples plotted in Figure 8.3. The technical appendices provide details of a further 17 ocean quahog found within the WDA.

It is acknowledged that the survey data is likely to underrepresent the numbers of quahog within the study area. We are aware that grab sampling typically collects only the top 10-20 cm of sediment and penetration is often reduced in hard sediments. Ocean quahog, particularly adults, may be found deeper in the sediment than this (variable depths from upper few cm to 10 cm+). As such, it is understood that grab sampling is likely to underestimate the number of individual animals present. Additional details, such as those noted above and the quantitative magnitude of loss to the feature for each impact pathway would have been welcomed. However, we are content that the inclusion of this information would not have changed the overall conclusions of the assessment.

F.2.1.2 eDNA sampling

Environmental DNA (eDNA) samples were collected during the project's site investigation survey campaign. However, on the basis that there is no available guidance on using eDNA results within an EIA, this has not been considered for baseline characterisation.

The Applicant refers to the Scoping Report Appendix E: Environmental DNA Survey Interpretative Report. Whilst not considered for the baseline, this report was useful to review alongside Appendix 8.2 to see which species were being detected in the area, which supports the species included as receptors within the EIA Report.

Although it is an emerging technique, we consider eDNA sampling and analysis to add value. For example, by improving identification of species difficult to detect using traditional methods including cryptic species and non-native species. For future Applicants, we recommend that

⁶² Survey data acquired by the Applicant, from surveys undertaken in 2021 by a third-party and that overlap with the W1 Option Agreement Area.

inclusion of eDNA sampling is considered, in addition to traditional survey methods, with findings used to help contextualise the baseline information.

F.3 Assessment approach

We are content with the approach to assessment for benthic ecology, including the impacts scoped in / out of the EIA.

It is noted in Section 8.10.1.2 that the Applicant has provided sensitivity scores using MarESA⁶³ along with wider literature. However, for future Applicants we also recommend utilising the Feature Activity Sensitivity Tool (FeAST)⁶⁴ to inform the impact assessment and provide further perspective specific to Scotland, where applicable.

Table 8.11 sets out the definition of terms in relation to magnitude used for the assessment. It is noted that the descriptions of magnitude are very similar between negligible and low. The EIA has concluded that nearly all magnitude scores for benthic receptors are negligible, which we disagree with. However, we advise that this does not affect the overall conclusions – further advice is provided below in Section F.4.

F.4 Impact assessment

We agree with the Applicant's conclusion of no significant effects for construction, operation and maintenance and decommissioning phases for benthic receptors.

F.4.1 Magnitude scoring

As highlighted above, in some instances we conclude different magnitude scores to those assigned by the Applicant. In our view, a magnitude of low would have been more appropriate for the following impacts and receptors, rather than that of negligible as assigned:

Impact	Receptor	Phase
Impact 2: Temporary Physical Disturbance / Habitat Loss	Ocean quahog	Construction Operation & Maintenance Decommissioning
Impact 3: Introduction of Marine INNS	Offshore circalittoral coarse sediment	Construction Operation & Maintenance Decommissioning
Impact 4: Permanent Habitat Loss	Offshore circalittoral sand Offshore circalittoral coarse sediment Echinoderms and crustose communities Ocean quahog	Operation & Maintenance
Impact 5: Colonisation of introduced hard structures	Offshore circalittoral sand Offshore circalittoral coarse sediment Ocean quahog	Operation & Maintenance

⁶³ <https://www.marlin.ac.uk/publications>

⁶⁴ <https://www.nature.scot/professional-advice/protected-areas-and-species/priority-marine-features-scotlands-seas/feature-activity-sensitivity-tool-feast>

This change means that using the significance matrix provided in Table 8.12, for the impacts and receptors highlighted above, the resulting conclusion is moderate rather than minor. However, noting the conservative significance matrix, we are in support of the Applicant's conclusions of not significant for all impacts to benthic ecology receptors, despite our differing magnitude scores.

F.4.2 Permanent habitat loss & colonisation of hard substrate

Permanent habitat loss and colonisation of introduced hard substrate have been considered as part of the operation and maintenance phase only, despite these impacts beginning to occur during construction and potentially continuing during and after decommissioning. At scoping, this was accepted as a pragmatic approach given uncertainty around decommissioning; however, we reiterate our expectation that assessment of this impact should be considered further in a decommissioning plan.

F.4.3 Interactions with Electromagnetic fields (EMF)

Section 8.11.1.6 discusses potential for impacts to benthic receptors from EMFs from subsea cabling. The total length of cabling proposed within the WDA is approximately 1,044 km, which includes inter-array, offshore substation platform links and offshore export cables. As noted in Paragraph 185 the cable minimum burial depth will be between 0.3 m and 3.0 m but typically between 1.0 and 2.0 m. For any cables buried less than 1.0 m, cable protection will be required, and the Applicant has estimated this to be up to 25 % of the total cable length, as a worst-case scenario. We agree that the risk of exposure to EMF is lower for the buried portions of cable but highlight that a burial depth of 1 – 2 m is preferable.

Given the potential EMF levels and proposed minimum burial depth of 0.3 m, we consider the magnitude should be revised from negligible to low. The Applicant, acknowledging that relatively little is known about the effects of EMFs on marine benthic communities and invertebrates, has assigned a sensitivity score of medium, which we agree with. Therefore, overall the impact is minor and not significant in EIA terms but the revised scoring better reflects our current understanding of this impact.

As our collective understanding of EMF effects remains poor, particularly in relation to in-field measurements of EMF and potential impacts to sensitive receptors. In line with other recently consented offshore wind farm proposals, **we advise that monitoring of EMF should be considered to validate predicted EMF effects.**

F.5 Cumulative effects

The cumulative impact pathways for benthic receptors have been identified in Table 8.19, and we support the conclusion of not significant for cumulative impacts.

F.6 Mitigation

As all impacts have been assessed as not significant, no additional mitigation measures are proposed beyond the embedded mitigation outlined in Table 8.7, which is largely the production of and adherence to post-consent plans and programmes. These plans themselves do not constitute mitigation, however, we are content that embedded mitigation within them is in line with similar developments, and therefore we accept this.

Where feasible, we recommend that infrastructure such as cable protection and scour protection use materials that consider nature inclusive design aspects and also do not contain any

contaminants that would be released over time. We welcome the Applicant's consideration and inclusion of a Nature Positive Plan. Should Scottish Ministers grant consent to the proposal, NatureScot can provide further advice on the Nature Positive Plan following refinement post-consent.

F.6.1 Invasive Non-Native Species Mitigation Plan (M-9)

The INNS Mitigation Plan (Volume 3a, Appendix 8) includes detail in relation to identifying the risks to the introduction of INNS and proposed control measures.

We are aware that a new report commissioned by the Offshore Wind Directorate regarding '*Invasive non-native species mitigation measures for offshore renewables*' is soon to be published, and we recommend that the Applicant consults this and modifies their Invasive Non-Native Species Mitigation Plan once available.

F.6.2 Micro-siting (M-14)

We welcome the embedded measure M-14 which proposes, where practicable, the micro-siting of infrastructure around identified sensitive habitats. Table 8.7 outlines linkages between M-14 and the Development Specification and Layout Plan, noting that an outline version of this plan has not been provided at this stage.

We highlight that consideration of micro-siting is also discussed in the Outline Environmental Management Plan (EMP), however, linkages between M-14 and the Outline EMP are not recognised within Table 8.7. We provide further comment on the Outline EMP below (see F.6.2).

F.6.3 Outline Environmental Management Plan

Although the EIA Report raises no concerns of national interest, the Applicant includes a commitment to micro-siting and states that "*the Project has committed to micro-siting of infrastructure, where practicable, around any identified sensitive habitats (including Annex I Reef)*" and outlines that further site-specific surveys and design reviews will be undertaken in accordance with the Outline EMP.

Appendix 6: Outline Environmental Management Plan reiterates this commitment, however, we note some inconsistency in the sensitive habitats referred to, whereby the Outline EMP refers specifically to PMFs and in particular 'Offshore Subtidal Sand and Gravels'.

We advise that the Applicant adjusts this commitment within the Outline EMP in-line with the commitment made in the EIA Report and to encompass both PMFs and Annex I Reef(s).

F.7 Monitoring

No monitoring has been proposed in relation to benthic interests, on the basis that all impacts are assessed as not significant.

We understand that the ScotMER project 'A Targeted Approach to Characterising EMF from Subsea Cables and Understanding Potential Impacts on Fish and Benthic Species' is due to report shortly. Recommendations from this report should be considered for inclusion in any relevant cable plans post-consent, where applicable.

In addition, as noted above, we advise that monitoring of EMF should be considered to validate predicted EMF effects.

F.8 Report to Inform Marine Protected Area Assessment

As summarised in Section 2 of the Report to Inform Marine Protected Area Assessment, the Applicant concludes that no further assessment of NCMPAs with benthic features is required. This conclusion is consistent with the Nature Conservation Marine Protected Areas Screening Report and in-line with our Scoping advice, in which we advised that benthic features of the NCMPAs considered can be screened out from further assessment.

F.9 Report to Inform Appropriate Assessment (RIAA)

Section 4 of the RIAA Part 1 sets out that no European sites designated for benthic features (Annex I habitats) were advanced through to the RIAA stage. This is consistent with the HRA Screening Report and our advice at the Screening stage.

NATURESCOT ADVICE ON MACHAIRWIND OFFSHORE WINDFARM

Appendix G – Blue Carbon

Blue carbon interests are considered in Appendix 19.2 – Blue Carbon Assessment (Volume 3C). In this Appendix we provide advice on the blue carbon assessment and conclusions, we do not provide comment on other elements of the climate change or greenhouse gases assessments.

The assessment for blue carbon concludes **no significant impacts**, which we support.

We recognise that blue carbon assessments are a relatively new element of EIA Reports for proposed marine energy projects. Whilst advice included within this appendix is specific to the proposed MachairWind Offshore Windfarm EIA Report, there are some instances in which we provide comment on aspects of the assessment process which do not affect the outcome of the assessment or the overall conclusions reached in our advice; we hope these comments will be of benefit to future blue carbon assessments.

Furthermore, the biodiversity value and ecosystem functions provided by blue carbon habitats are well understood and afforded protection through a variety of policies. Lastly, there is an increasing need to also recognise the climate change mitigation potential in line with the Blue Carbon Action Plan⁶⁵.

G.1 Study area

The study area is defined as the proposed development boundary, i.e. the WDA only.

In our advice dated 28 January 2026, we advised that the study area defined for blue carbon should be the same as that used for benthic ecology, i.e. based on one spring tidal ellipse. However, reviewing Chapter 8 – Benthic Ecology (Volume 2), we consider that there are unlikely to be any blue carbon habitats with potential impact pathways from the proposed development within the spring tidal ellipse buffer. We therefore accept the study area in this case.

However, we reiterate that for future proposals, the study area should mirror that of benthic ecology. We expect the subsequent ECC EIA to follow the benthic study areas as well as consider coastal habitats (e.g. sand dunes, seagrass, salt marsh, etc.) which may be present, particularly within the intertidal area, and other impact pathways (e.g. increased suspended sediment concentrations) may extend outwith the proposed development boundary.

G.2 Baseline characterisation

It is noted that many of the key data sources we would recommend for the blue carbon assessment are missing from Table 1.3, noting that some are referenced later in Appendix 19.2, including:

- Daewel, U., Akhtar, N., Christiansen, N., & Schrum, C. (2022). Offshore wind farms are projected to impact primary production and bottom water deoxygenation in the North Sea. *Communications Earth and Environment*, 3(1), 1–8. <https://doi.org/10.1038/s43247-022-00625-0>

⁶⁵ <https://www.gov.scot/publications/scottish-blue-carbon-action-plan/>

- Diesing, M., Thorsnes, T., & Rún Bjarnadóttir, L. (2021). Organic carbon densities and accumulation rates in surface sediments of the North Sea and Skagerrak. *Biogeosciences*, 18(6), 2139–2160. <https://doi.org/10.5194/bg-18-2139-2021>
- Hunt C, Demšar U, Dove D, Smeaton C, Cooper R and Austin WEN (2020) Quantifying Marine Sedimentary Carbon: A New Spatial Analysis Approach Using Seafloor Acoustics, Imagery, and Ground-Truthing Data in Scotland. *Front. Mar. Sci.* 7:588. <https://doi.org/10.3389/fmars.2020.00588>
- Turrell, W. R., Austin, W. E. N., Philbrick, S. P., Tilbrook, C., & Kennedy, H. (2023). Clarifying the role of inorganic carbon in blue carbon policy and practice. *Marine Policy*, 157(October), 105873. <https://doi.org/10.1016/j.marpol.2023.105873>
- Watson, S. C. L., Somerfield, P. J., Lemasson, A. J., Knights, A. M., Edwards-Jones, A., Nunes, J., ... Beaumont, N. J. (2024). The global impact of offshore wind farms on ecosystem services. *Ocean and Coastal Management*, 249 (September 2023). <https://doi.org/10.1016/j.ocecoaman.2024.107023>

In this case, this does not affect the outcome of the assessment or the overall conclusions reached in our advice, but we highlight this for future Applicants to be aware of.

G.3 Assessment approach

G.3.1 Sedimentary Blue Carbon

Section 1.3.3.1.1 discusses the site-specific survey data collected as part of the benthic survey and geophysical surveys and we note that no site-specific carbon data was collected. Instead, Paragraph 27 states that organic carbon content data from Smeaton et al. (2021)⁶⁶ was overlain with the location of the proposed development. It would have been useful to collect site-specific carbon content values, either to be used in the assessment directly or for comparison with the literature values used. However, the approach used is acceptable.

Typically, we expect temporary seabed disturbance to be assessed separately to permanent habitat loss. However, the Applicant has combined these impacts in Section 1.5.2.1.2 under 'Blue Carbon Loss'. Further advice is provided in G.4.2 below.

G.3.2 Impact pathways

We typically advise that changes in physical processes resulting from the presence of the subsea infrastructure associated with the proposed development are included in an assessment e.g. scour effects, changes in wave / tidal current regimes and resulting effects on sediment transport. It is therefore recommended that future blue carbon assessments should include this as an impact pathway, where relevant, as sediment and associated carbon accumulation may result from the proposed development (Daewel, *et al.*, 2022; Watson *et al.*, 2024). This could be further impacted at decommissioning stage, although the impact is likely to be negligible given relatively low sediment accumulation rates in the North Sea, noting that this does vary spatially (Diesing, Thorsnes, & Bjarnadóttir, 2021).

G.4 Impact assessment

⁶⁶ Smeaton, C., Hunt, C.A., Turrell, W.R. and Austin, W.E.N. (2021). Sediment type and surficial sedimentary carbon stocks across the United Kingdom's Exclusive Economic Zone and the territorial waters of the Isle of Man and the Channel Islands. <https://doi.org/10.7489/12354-1>

G.4.1 Blue carbon habitats – construction and operation & maintenance

The impact of temporary physical disturbance / habitat loss on blue carbon habitats mirrors the Applicant's conclusions from the benthic ecology assessment, such that the magnitude is considered negligible and the sensitivity medium. However, as stated in our advice in Appendix F, we disagree with the magnitude and consider that a score of low is more appropriate. However, this would not impact the overall significance of the impact, i.e. minor, which is not significant under EIA.

G.4.2 Sedimentary carbon – construction

As discussed above, the Applicant has combined temporary seabed disturbance and permanent habitat loss as one impact pathway under "Blue Carbon Loss". It is not appropriate to combine these two distinct impact pathways, primarily because any area assessed within permanent habitat loss should already be included within temporary seabed disturbance. For example, the area for seabed preparation works around one WTG considered under temporary seabed disturbance, should already encapsulate the area considered under permanent habitat loss from the WTG footprint. Thus, combining the impact pathways results in an overestimate of total carbon potentially released.

Moreover, it is unclear how the Applicant has reached a carbon value of 12,772 tonnes in Table 1.13 as 7.2 % (total area of temporary seabed disturbance + permanent habitat loss) of 1,598,753 tonnes (total blue carbon within the entire WDA) is 115,110 tonnes, and not 12,772 tonnes. However, based on experience with previous proposed developments, this figure seems high, and the Applicant's 12,772 tonnes of carbon seems more in line with what we would expect, although it is unclear how this was derived.

Given we cannot replicate the calculations used by the Applicant based on Table 1.13, we are unable to provide our own in-depth re-assessment. We have therefore based our assessment on the figures presented, i.e. 12,772 tonnes of carbon released, which is 46,874 tCO₂ equivalent.

We request clarification as to the calculations used to derive the figure of 12,722 tonnes of carbon, to ensure that it represents the worst-case scenario.

We consider the magnitude to be negligible due to the footprint of the proposal relative to the total seabed area, and net benefit of displaced greenhouse gas emissions across the operational lifetime.

Regarding sensitivity, we consider that the sedimentary carbon is deemed to be of high vulnerability, low recoverability and high value. This is because sediment accumulation on the seabed can be very low and recovery therefore is slow. As such, we agree with the Applicant's sensitivity scoring of high.

Overall, we conclude a significance of minor, which is not significant in EIA terms.

G.4.3 Sedimentary carbon – operation & maintenance

Similar to our advice above for the construction phase, it is unclear how the Applicant has derived the carbon values presented in Table 1.14 and the above clarification request should help address this. However, basing our assessment on the figures presented, i.e. 503 tonnes of carbon released, which is 1,847 tCO₂ equivalent, we consider the magnitude to be negligible and the

sensitivity to be high. This results in an overall significance of minor, which is not significant in EIA terms.

G.4.4 Decommissioning

We agree that for both blue carbon habitats and sedimentary carbon, the overall significance for decommissioning impacts would be negligible, which is not significant in EIA terms.

G.5 Mitigation and monitoring

No mitigation or monitoring is proposed for Blue Carbon, which is in line with the conclusions of no significance of effect.

NATURESCOT ADVICE ON MACHAIRWIND OFFSHORE WINDFARM

Appendix H – Derogation

The Applicant has submitted a derogation case alongside the s36 and Marine Licence Applications for the proposed MachairWind Offshore Windfarm. This derogation case is provided on a without prejudice basis, and includes the following document:

- Appendix 1, Without Prejudice Guillemot Compensation Plan

We have considered this report and its associated Appendix and provide advice below.

H.1 Without Prejudice Derogation Case

This report provides information on the legal framework, policy and guidance; consideration of alternative solutions; Imperative Reasons of Overriding Public Interest (IROPI) used to justify the Proposed Development. A summary of the potential compensation measures is provided in section 6. Additionally, it includes one Appendix, which we have focussed our advice on in line with our remit, as below.

H.2 Appendix 1 – Without Prejudice Guillemot Compensation Plan

H.2.1 Potential requirement for compensation

Within the assessment provided in the RIAA, the Applicant has reached conclusions of no AEoSI for every site and qualifying species assessed, both proposal alone and in-combination. However, in anticipation that Scottish Ministers may reach a different conclusion, a without prejudice derogation case has been provided for one SPA and a single qualifying species:

- Guillemot at North Colonsay and Western Cliffs SPA

As noted in our advice outlined in Appendix D of this response, we have reached a conclusion of AEoSI for two sites and species, although we acknowledge that at this point, the Appropriate Assessment has yet to be undertaken. We therefore provide advice on the suitability of the proposed measures discussed in Appendix 1 – as is discussed below, we cannot advise on the sufficiency, due to the lack of detail provided.

H.2.2 Guidance in relation to the identification of potential compensation measures

The Applicant acknowledges that at the time of writing there was no formal compensation guidance available in Scotland. The Conservation of Habitats and Species (Offshore Wind) (Miscellaneous Amendments) (Scotland) Regulations 2026 was enacted on 25 May 2026 and its associated statutory guidance⁶⁷ published on the 06 July 2026. Appendix 1 refers to draft guidance and policy that was available at the time - this has since been updated. We therefore advise that the Applicant reviews both the Scottish Statutory Instrument and the Statutory Guidance in detail, to ensure that further development of their proposed compensation measures comply. In particular, we draw attention to the compensation hierarchy and that progression through the tiers must be sequential, based on appropriate evidence-based justification with due consideration of the availability and greater ecological benefit tests.

⁶⁷ <https://www.gov.scot/publications/compensating-adverse-effects-offshore-wind-protected-european-sites-scotland-statutory-guidance-2026/>

H.2.3 Short list of potential compensation measures

A short-list of potential compensation measures is proposed, comprising:

- Mammalian predator management;
- Reducing anthropogenic disturbance at colonies; and
- Conservation management funding.

The Applicant would prefer to implement one or more of these measures strategically, either through the Scottish Marine Recovery Fund (once established) or through collaboration with other offshore wind developers, although a project-level framework has not been discounted.

For each measure, an indicative early-stage road map is provided. These are very high-level and lack fundamental details such as location, evidence of need, which mammalian species would be targeted for predator management, or which conservation management measure may be most suitable. As such, we cannot determine how effective any of the measures proposed within the short list may be in compensating for mortality predicted from the proposed development or whether the benefit derived from these measures would be sufficient.

Instead, we acknowledge conceptually this provides a useful starting point, that the measures proposed in general do have the potential to provide compensation for those seabird species likely to be impacted and that, in principle, we consider the short list measures are appropriate to be taken forward for further consideration and development.

H.2.3.1 Mammalian predator management

Summary of evidence

Some evidence is provided to support the predation of seabirds by rats and mink, and as stated by the Applicant, we do not disagree with the general premise that the target seabirds discussed are susceptible to predation.

Assessing site-specific factors will be key to evidencing the need and likely effectiveness of the measure. As yet, none of this information is provided and without baseline monitoring at selected locations to assess seabird colony status and available habitat for colony expansion, along with predator density, distribution and evidence of predation on the target species, it is not possible to evaluate the measure effectively.

Sufficiency, scale and site selection

The Applicant has outlined guillemot population responses to previous mammalian predator control programmes to indicate that the compensation requirements for the proposal could be met entirely through this scheme. These data seem reasonable, though whether they will be realistically achievable will depend on the chosen location and methodology.

The report states that before the implementation of an eradication measure, a comprehensive feasibility study must be conducted to confirm that eradication is feasible and sustainable at the chosen location. It also states that proportionate seabird surveys will be conducted at the selected site or sites to establish a baseline against which to measure the impact of the compensation measure. No detail is given of these measures so we cannot advise at this time.

Monitoring

No detail is given for monitoring, other than it will be done and reports will be published annually.

Example timeline

It is helpful to have an outline timeline for developing the measure in this section, but this requires further detail.

*H.2.3.2 Reducing anthropogenic disturbance at colonies*Summary of evidence

Some evidence is provided to outline how anthropogenic disturbance reduces productivity in guillemot and ecologically similar species (razorbill and puffin). While we agree in principle, we note that the evidence and justification provided is limited and it will depend on site specific circumstances.

Sufficiency, scale and site selection

This section is very high level. The Applicant suggests this measure is likely to be strategically implemented through the Scottish Marine Recovery Fund and that North Colonsay and Western Cliffs SPA is quite remote and unlikely to benefit from a reduction in anthropogenic disturbance. No further detail on how and where this measure might be implemented has been provided so we cannot advise at this time.

Monitoring

No detail is given for monitoring further than it will be done and reports will be published annually.

Example timeline

It is helpful to have an outline timeline for developing the measure in this section, but this requires further detail.

*H.2.3.3 Conservation management funding*Summary of evidence

Examples of where this measure has been accepted for other offshore wind farms, and long-term conservation management projects with fixed-term funding are given. We agree that this measure is a possible route for compensation subject to further detail.

Sufficiency, scale and site selection

This section is very high level. No fundable conservation measures have currently been identified. No further detail on how and where this measure might be implemented has been provided so we cannot advise at this time.

Monitoring

No detail is given for monitoring further than it will be done and reports will be published annually.

Example timeline

It is helpful to have an outline timeline for developing the measure in this section, but this requires further detail.

National Parks Wildlife Service

From: [Housing Manager DAU](#)
To: [MD Marine Renewables](#)
Cc: [Redacted]
Subject: RE: MD-00012385/ MD-00012386 - MachairWind Limited – MachairWind Offshore Wind Farm – Windfarm Development Area - EIA Section 36 consent and Marine Licence Applications Consultation Started
Date: 17 August 2026 15:55:19
Attachments: [image001.png](#)
[image002.png](#)
[image004.png](#)

Good afternoon,

Further to the below email I wish to confirm that this Department will not be issuing a response to this consultation.

Kind Regards

[Redacted]

—

[Redacted]

Executive Officer

—

Aonad na nIarratas ar Fhorbairt

Development Applications Unit

Oifigí an Rialtais

Government Offices

Bóthar an Bhaile Nua, Loch Garman, Contae Loch Garman Y35 AP90

Newtown Road, Wexford, County Wexford Y35 AP90

—

Natural England

Date: 21 July 2026
Our ref: 551986
Your ref: MD-00012385 / MD-00012386



Scottish Government,
Victoria Quay,
Edinburgh,
EH6 6QQ

Tyneside House
Skinnerburn Road
Newcastle-upon-Tyne
NE4 7RA

BY EMAIL ONLY

T 0300 060 3900

Dear Marine Directorate

MACHAIR WINDFARM

Location: West of Colonsay

Full application

Thank you for seeking our advice on the application in your consultation which we received on 25 June 2026.

Natural England is a non-departmental public body. Our statutory purpose is to ensure that the natural environment is conserved, enhanced, and managed for the benefit of present and future generations, thereby contributing to sustainable development.

The advice contained within this letter is provided by Natural England, which is the statutory nature conservation body within English territorial waters (0-12 nautical miles). As the application is located in Scottish waters, advice from NatureScot, the statutory nature conservation body in Scotland should be sought.

Having considered the location and scale of the Machair windfarm, we conclude that the project is unlikely to significantly impact any species from English designated sites or waters. We do not expect a requirement to provide further comments or advice on this project unless the project changes substantially.

For any queries relating to the specific advice in this letter only please contact me using the details below. For any new consultations, or to provide further information on this consultation please send your correspondence to consultations@naturalengland.org.uk.

Yours sincerely

Northumbria Marine Team
E-mail: planconsareateamnorthumbria@defra.gov.uk

Natural Resource Wales



Eich cyf/Your ref: MD-00012385/ MD-00012386
Ein cyf/Our ref: AOS-26075-0001

Natural Resources Wales
Welsh Government Offices
Cathays Park
King Edward VII Avenue
Cardiff
CF10 3NQ

Ebost/Email:
marine.advice@cyfoethnaturiolcymru.gov.uk

Licensing Operations Team, Marine Directorate
Scottish Government
Marine Laboratory
Aberdeen
AB11 9DB

Ebost/Email: MD.MarineRenewables@gov.scot

Dyddiad/Date: 31/07/2026

Annwyl/Dear Sir/Madam,

CONSULTATION: MachairWind Offshore Wind Farm

APPLICANT: MachairWind Limited

EICH CYFEIRNOD / YOUR REFERENCE: MD-00012385/ MD-00012386

EIN CYFEIRNOD / OUR REFERENCE: AOS-26075-0001

Thank you for consulting Cyfoeth Naturiol Cymru / Natural Resources Wales (NRW) on the above application to construct and operate the MachairWind Offshore Wind Farm.

Considering the location of the MachairWind Offshore Wind Farm, NRW Advisory (NRW (A)) conclude that the project is unlikely to significantly impact Welsh designated sites and we have taken the decision to not provide detailed advice on this application at this stage. Accordingly, we defer to NatureScot as the Statutory Nature Conservation Body (SNCB) for Scotland.

Please do not hesitate to contact marine.advice@cyfoethnaturiolcymru.gov.uk should you require any further clarification.

Yn gywir / Yours sincerely,

[Redacted]

[Redacted]

Senior Marine Advisory Officer
Marine Area Advice and Management Team
Natural Resources Wales.

Northern Lighthouse Board



Northern Lighthouse Board

84 George Street
Edinburgh EH2 3DA

Tel: 0131 473 3100
Fax: 0131 220 2093

Website: www.nlb.org.uk
Email: enquiries@nlb.org.uk

Your Ref: MachairWind OWF – S36 Consent & ML Application
Our Ref: AL/OPS/ML/WIND_030_26

Licensing Operations Team – Marine Directorate
Scottish Government
Marine Laboratory
Aberdeen
AB11 9DB

30 July 2026

ELECTRICITY ACT 1989

The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017
The Electricity (Applications for Consent) Regulations 1990

MARINE AND COASTAL ACCESS ACT 2009

The Marine Works (Environmental Impact Assessment) Regulations 2007

Application for Consent Under Section 36 of the Electricity Act 1989 and Part 4 of the Marine (Scotland) Act 2010 to Construct and Operate the MachairWind Offshore Wind Farm, located off the west coast of Scotland, northwest of Islay and west of Colonsay

Thank you for your e-mail correspondence dated 25th June 2026 relating to the application submitted by **MachairWind Ltd** for consent to develop and operate the MachairWind Offshore Wind Farm, located off the west coast of Scotland, northwest of Islay and west of Colonsay.

Northern Lighthouse Board note that the MachairWind OWF will consist of up to 144 fixed-bottom Wind Turbine Generators (WTG) with an approximate export capacity of up to 2GW. A maximum of two Offshore Substation Platforms (OSP) will be located within the array, with an onshore grid connection expected at a landfall location near Girvan, South Ayrshire. It is noted that there will be up to four HVDC offshore export cables.

NLB have reviewed the documentation associated with the application, with particular reference to the navigational safety elements, including cumulative impacts, of the application contained within Chapter 13 (Shipping & Navigation) and Chapter 15 (Military & Civil Aviation). NLB also recognise the inclusion of the various technical appendices, including Appendix 12: Outline Lighting & Marking Plan, Appendix 13.1: Navigational Risk Assessment (NRA), and Appendix 15.2: Dubh Artach Lighthouse Technical Note.

NLB respects your privacy and is committed to protecting your personal data.
To find out more, please see our Privacy Notice at www.nlb.org.uk/legal-notice/

NLB note the hazards identified through the Navigational Risk Assessment (NRA) process, and the associated embedded mitigations detailed within Table 17.1 of the NRA. NLB also acknowledge the inclusion of Embedded Mitigation M49 (Dubh Artach Setback Distance), which was agreed with NLB in earlier consultations.

The inclusion of Outline Post-Consent Documentation such as the Outline Lighting & Marking Plan (LMP) and Outline Vessel Management Plan and Navigational Safety Plan (VMP&NSP) is welcomed.

Within the Outline Lighting & Marking Plan, NLB acknowledge the inclusion of Section 6 (Maintenance of AtoN), and the commitment to undertake remote monitoring of AtoN on buoyage during the construction phase, and of WTG AtoN during the O&M phase. NLB also welcome the commitment that general maintenance will be undertaken to ensure functionality of the AtoN is maintained and optimised.

Within Section 6 (Maintenance of Aids to Navigation) of the Outline Lighting & Marking Plan, NLB request inclusion of the following text:

“NLB will conduct regular audits of MachairWind Ltd for their provision of Aids to Navigation, as established by the Merchant Shipping Act 1995, and the Northern Lighthouse Board’s position as the General Lighthouse Authority for Scotland and the Isle of Man. NLB request that a record of annual AtoN maintenance and testing is kept for auditing purposes.”

NLB request that Sections 7.1 (Loss of Aids to Navigation) and 7.2 (Guard Vessel Trigger Points) of the Outline LMP are reworded to include the following:

“In the event of a significant AtoN outage, notification will be provided to the Northern Lighthouse Board (navigation@nlb.org.uk / 08000 326655) and the NLB AtoN Reporting Portal at <http://nlb.org.uk/latonsonline>, the UK Hydrographic Office (using form H102 via admiralty.co.uk/H-note) and the local HM Coastguard (zoneXXX@hmcg.gov.uk).

Notifications to local marine stakeholders shall also be made by Notice to Mariners and the Kingfisher Safety Bulletin scheme. In the event of a failure which may lead to a significant risk to navigational safety, additional temporary risk mitigation measures will be considered following consultation with the NLB and MCA, including the use of a guard vessel, until such time as the AtoN has been repaired or replaced.”

NLB also acknowledge the commitment to engage with NLB with regard to a significant failure of AtoN, and potential mitigations including the deployment of a guard vessel. NLB request that Section 7.2 – Point 3 is amended to read “loss of station of any navigational buoy, including significant delay (greater than 72 hours) to it being restored”.

NLB also request that Section 7.1 (Loss of Aid to Navigation) of the Outline Lighting & Marking Plan contains reference to Section 3 of the MachairWind OWF Vessel Management and Navigational Safety Plan, and the relevant procedures for the promulgation of Local Notices to Mariners and Radio Navigational Warnings in the event of an Aid to Navigation failure.

The establishment, alteration and discontinuation of any Aid to Navigation is subject to the Statutory Sanction of the Commissioners of Northern Lighthouses. Further guidance and application forms can be obtained on request from the NLB Navigation Department (navigation@nlb.org.uk).

As is noted throughout the application, Northern Lighthouse Board operate a number of significant Aids to Navigation within the vicinity of the MachairWind array area. NLB will monitor the impact of the development on AtoN provision within the area, and will continue to engage closely with the applicant to deconflict any operations across the lifespan of the project, and ensure that safety of navigation is maintained throughout the area.

Northern Lighthouse Board do not anticipate that the MachairWind project will negatively impact the delivery of NLB's statutory obligations as the General Lighthouse Authority for Scotland and the Isle of Man.

Northern Lighthouse Board have no objection to the proposed MachairWind OWF, and will continue to engage with the applicant with regard to the development of post-consent navigational safety documentation.

Yours sincerely
[Redacted]

[Redacted]
Navigation Manager

SEPA

From: [Planning.North](#)
To: [MD Marine Renewables](#)
Subject: PCS-20009244 SEPA response to MD-00012385/ MD-00012386
Date: 26 June 2026 09:41:44
Attachments: [image.png](#)

To Whom It May Concern,

Marine Works (Environmental Impact Assessment) (Scotland) Regulations 2017
MD-00012385/ MD-00012386 - MachairWind Offshore Wind Farm, Located off the
west coast of Scotland, northwest of Islay and west of Colonsay

Thank you for the above consultation. Based on the information provided, this
application appears to fall below the thresholds that SEPA provide site specific
advice for. We recommend that you refer to [SEPA standing advice for the
Department for Business, Energy and Industrial Strategy and Marine Scotland on
marine consultations](#). You should also refer to our wider standing advice and other
guidance, which is available on our website at
www.sepa.org.uk/environment/land/planning/.

If there is a significant site-specific issue that is not addressed by our guidance or
other information available on our website, and on which you would like our
advice, please reconsult us clearly highlighting the issue in question and we will do
our best to assist.

from

[Redacted]

Senior Planning Officer



For the future of our environment

Disclaimer

The information contained in this email and any attachments may be confidential and is intended solely for the use of the intended recipients. Access, copying or re-use of the information in it by any other is not authorised. If you are not the intended recipient, please notify us immediately by return email to postmaster@sepa.org.uk. Registered office: SEPA, Angus Smith Building, 6 Parklands Avenue, Eurocentral, Holytown, North Lanarkshire, ML1 4WQ. Communications with SEPA may be monitored or recorded or released in order to secure the effective operation of the system and for other lawful purposes.

Dh'fhaodadh gum bi am fiosrachadh sa phost-d seo agus ceanglachan sam bith a tha na chois dìomhair, agus cha bu chòir am fiosrachadh a bhith air a chleachdadh le neach sam bith ach an luchd-faighinn a bha còir am fiosrachadh fhaighinn. Chan fhaod neach sam bith eile cothrom fhaighinn air an fhiosrachadh a tha sa phost-d no a tha an cois a' phuist-d, chan fhaod iad lethbhreac a dhèanamh dheth no a chleachdadh arithist. Mura h-ann dhuibhse a tha am post-d seo, feuch gun inns sibh dhuinn sa bhad le bhith cur post-d gu postmaster@sepa.org.uk. Togalach Aonghais Mhic a' Ghobhainn, 6 Craobhraid Parklands, Eurocentral, Baile a' Chuilinn, Siorrachd Lannraig a Tuath, ML1

4WQ. Faodar conaltradh còmhla ri SEPA a sgrùdadh no a chlàradh no a sgaoileadh gus obrachadh èifeachdach an t-siostaim a ghlèidheadh agus airson adhbharan laghail eile.