

Aberdeen Airport

From: [Redacted]
To: [MD Marine Renewables](#)
Subject: Re: 00011544, 00011545, 00011546 & 00011547 - MarramWind Ltd – MarramWind Offshore Wind Farm – EIA Section 36 consent and Marine Licence Applications - Consultation – Response Required by 3 March 2026
Date: 16 February 2026 14:18:22
Attachments: [image003.png](#)
[image309788.png](#)
[image735621.png](#)
[image867318.png](#)
[image622988.png](#)
[image323574.png](#)

This proposal is located outwith our consultation zone. As such we have no comment to make and need not be consulted further.

Kind regards
Kirsteen



Kirsteen Macdonald
Safeguarding Manager
Glasgow Airport

M [Redacted]
[Redacted]
www.agsairports.co.uk

Glasgow Airport, Erskine Court, St Andrews Drive, Paisley, PA3 2TJ

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Aberdeen City Council

From: [EPConsultations](#)
To: [MD Marine Renewables](#)
Subject: RE: 00011544, 00011545, 00011546 & 00011547 - MarramWind Ltd – MarramWind Offshore Wind Farm – EIA Section 36 consent and Marine Licence Applications - Consultation – Response Required by 3 March 2026
Date: 05 February 2026 09:49:44
Attachments: [image003.png](#)
[image004.png](#)
[image005.png](#)
[image006.png](#)
[image007.png](#)
[image008.png](#)
[image009.png](#)
[image010.png](#)
[image001.png](#)

Thank you for consulting us. We have no comments on this application.

Kind regards
Sue



Sue Cumming (She/Her) | BSc (Hons) MSc MCIEEM

Senior Environmental Planner (Biodiversity & Open Space) |

Strategic Place Planning | City Regeneration & Environment | Aberdeen City Council
Ground Floor North | Marischal College | Broad Street | Aberdeen | AB10 1AB

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I've signed the Aberdeen Climate Pledge

**Aberdeen
Adapts**

**SUSTAINABLE
DEVELOPMENT
GOALS**



**NESBiP
BIG
Five**



Planning Authority of the Year: Aberdeen City Council

Best Plan: [Net Zero Aberdeen Routemap](#)

Aberdeenshire Council

Our Ref: ENQ/2026/0083

Ask for: Stephanie McMillan
Tel: 01467 468676
Email: [Redacted]

Scottish Government Marine Directorate
Scottish Government
5 Atlantic Quay
150 Broomielaw
Glasgow
G2 8LU

6 March 2026

Dear Sir/Madam

Marine Licence Consultation for Construction and Operation of the MarramWind Offshore Wind Farm at MarramWind Offshore Wind Farm, 75 And 110 Kilometres off the North-East Coast of Scotland

Thank you for your consultation request in relation to the above proposal.

Having consulted with internal consultees with an interest in this development I can provide the following comments at this time. Please note these are restricted to the intertidal zone, where this application overlaps with the onshore element of the project.

Natural Heritage

Intertidal Ecology

The habitats within the intertidal area of the landfall options were predominantly sandy beaches with areas of rock. Fauna and flora present were representative of these habitats, and no species of conservation importance were recorded during the survey.

The cables from the offshore windfarm are to be brought ashore using horizontal directional drilling (HDD) therefore there will not be any direct disturbance of the intertidal zone although the associated works could result in a temporary increase in suspended sediment and deposition, mobilisation of sediment associated contaminants and increased risk of introduction and spread of contaminants.

It has been concluded that although the intertidal habitats and species are assessed as being of medium sensitivity to activity, the magnitude of the effect is low to negligible therefore the effect is concluded to be Minor Adverse (Not Significant) or Negligible in terms of EIA. This conclusion is accepted.

A range of embedded mitigation measures have been adopted to reduce the potential for adverse impacts on offshore and intertidal ecology, including measures considered to be good or standard practice as well as actions to meet legislation requirements. Measures proposed include the use of HDD, the preparation of an Environmental Management Plan, including a Marine Pollution Contingency Plan, a Scour Protection Plan, a Project Environmental Monitoring Plan, and a Construction Method Statement.

Intertidal Ornithology

The cables from the offshore windfarm are to be brought ashore using trenchless installation such as horizontal directional drilling (HDD) therefore there will not be any direct disturbance of the intertidal zone. There may be some disturbance of birds within the intertidal area from vessels associated with the cable installation, as well as vehicles and personnel associated with the onshore element, however, it is considered that this would be temporary during construction with recovery from disturbance likely to occur rapidly once the works are complete.

It has been concluded that although the bird species recorded within the intertidal area of medium to high sensitivity to disturbance, the magnitude of the effect is very low i.e. localised disturbance or temporary loss of habitat. The long-term viability of these species are not threatened as a result of the development therefore the effect is concluded to be Minor Adverse (Not Significant) in terms of EIA. This conclusion is accepted.

A range of embedded mitigation measures have been adopted to reduce the potential for adverse impacts on offshore and intertidal ornithology, including measures considered to be good or standard practice as well as actions to meet legislation requirements. Measures proposed include the use of HDD, the preparation of an Environmental Management Plan, including a Marine Pollution Contingency Plan, a Project Environmental Monitoring plan, a Construction Method Statement and a Lighting Plan.

Core Paths/Rights of Way

The presence of core paths has been acknowledged within the “Traffic and Transport” chapter of the Onshore EIAR, which has also been submitted in support of the Marine License application.

The impact of the development on core paths and rights of way has been assessed within an Outline Core Path Management Plan. While this does not appear to be available as part of this Marine Licence application it is probably more appropriate for it to be assessed as part of the planning application for the onshore elements of this development.

Part of the coastal path utilises the beaches in the area of the proposed landfall and access will be taken within the intertidal area, depending on tides. The use of Horizontal Directional Drilling to bring the cabling ashore means that there should not be any direct impact upon the coastal path. Other than noting this, there are no further comments on the impacts on public access in relation to the Marine Licence

Archaeology

Have no concerns with the proposal subject to the following conditions and informatives

Programme of archaeological works

i) No development shall commence unless an archaeological Written Scheme of Investigation (WSI) for a Programme of Archaeological Works has been submitted to, and approved in writing by, the planning authority. The WSI shall include details of how the recording and recovery of archaeological resources found within the application site will be undertaken, and how any required updates to the WSI will be provided throughout the implementation of the programme of archaeological works. The WSI will also detail how any requirement for reporting, post-excavation analysis, archive deposition, publication of results, and the delivery of public benefit (including how this will be recorded and reported) will be undertaken.

ii) A Programme of Archaeological Works must be carried out in accordance with the approved WSI, and any addendums to it, as agreed under point (i) unless otherwise agreed in writing with the Planning Authority.

iii) Should the archaeological works carried out under point (ii) reveal the need for post excavation analysis, the development hereby approved shall not be occupied or be brought into use unless a Post-Excavation Research Design (PERD) for the analysis, publication and dissemination of results, including additional public engagement and archive deposition, has been secured by the developer and submitted to, and approved in writing by, the planning authority.

Reason: To safeguard and record the archaeological potential of the area, and to accord with NPF4 Policy 7 and Historic Environment Policy for Scotland.

The programme of works is yet to be finalised, and we note a draft WSI has been provided outlining the proposed offshore mitigation which we're happy with. All works are to be undertaken by a suitably qualified, ClfA-compliant, archaeological contractor. Given the scale of development, public benefit opportunities should be included as part of the works (as per the informative below).

Informatives:

Works by archaeological organisation

A suitably qualified archaeological organisation must undertake any Non-invasive Archaeological Survey, Archaeological Building Recording or Programme of Archaeological Works required by a condition attached to this planning permission.

Delivery of Public Benefit

Archaeological mitigation provides an opportunity for the delivery of public benefit. Community engagement can enhance public understanding of, and support for, the historic environment, adding value to both the conditioned archaeological work being undertaken as well as to the

development itself. Identifying appropriate community stakeholders (e.g. local schools, heritage groups, community hubs, employability schemes), and undertaking consultation and engagement with them to inform the approach to engagement, should be undertaken early and in advance of the commencement of the programme of archaeological works to ensure that appropriate engagement activities and deliverables can be incorporated effectively.

Potential public benefit opportunities should be outlined in the Written Scheme of Investigation (WSI) and be based on ALGAO Scotland's Delivery of Public Benefit and Social Value Guidance for Archaeology in the Planning Process (2023). The WSI should include how these benefits might be achieved by means of engagement, participation and/or dissemination of the results both during and after the project, as appropriate to the scale, nature, and circumstances of the work. This may vary from a brief social media post for a smaller project to a full-scale community project for larger scale, more complex sites. Delivery of these public benefits, with further expansion or reduction of engagement activities to be undertaken depending on the results of the mitigation, will be further explored at both the Data Structure Report (DSR) stage (within its 'Recommendations'), and, if required, at the Post-Excavation Research Design (PERD) stage of the archaeological mitigation process.

Post-Excavation Research Design (PERD)

A Post-Excavation Research Design (PERD) is a written specification for the post-excavation analysis of artefacts and samples recovered during the excavation phase of archaeological works, prepared by the appointed Chartered Institute for Archaeologists (CIfA) member archaeological contractor on behalf of the applicant. It should include a project design for the post-excavation work, a costed assessment for this work, costed proposals for the publication of results and archive deposition. It should also consider and, as appropriate, outline the delivery of public benefit opportunities. The PERD must be submitted to the planning authority for approval. Once the PERD has been accepted, written confirmation must be provided to the planning authority demonstrating that an agreement is in place between the applicant and the appointed CIfA member archaeological contractor, committing the applicant to fund the post-excavation work and for said work to be completed by an agreed date.

Subject to the above, Aberdeenshire Council offer no objection to this proposal contained within the provided consultation. Do not hesitate to contact me should you wish to discuss and matters further.

Yours faithfully

[Redacted]

Paul Macari

Head of Planning and Economy

BT Group

From: radionetworkprotection@bt.com
To: [MD Marine Renewables](#)
Cc: [Redacted] radionetworkprotection@bt.com
Subject: RE: WID14182 00011544, 00011545, 00011546 & 00011547 - MarramWind Ltd – MarramWind Offshore Wind Farm – EIA Section 36 consent and Marine Licence Applications - Consultation – Response Required by 3 March 2026
Date: 04 February 2026 14:30:29
Attachments: [image004.png](#)
[image005.png](#)
[image007.png](#)
[image001.png](#)

General



-

-

OUR REF: WID14182

Thank you for your email dated 19/01/26.

We have studied this proposal with respect to EMC and related problems to BT point-to-point microwave radio links.

The conclusion is that, the project indicated *could* cause interference to BT's current and presently planned radio network. We will require co-ordinates and heights of any structures at height that are in the onshore boundary to be able to make a decision.

BT requires 100m minimum clearance from any structure at height to the radio link path. It should be noted that this decision is for the date of its issue, includes no micro-siting, as the use of the spectrum is dynamic and can change on an ongoing basis. Therefore, please reconsult us if there are any changes during the planning process with heights and locations of any structures, and its finalisation, as we may have new links assigned by Ofcom over its duration.

Please note this refers to BT Radio Links only, you will need to contact other providers separately for information relating to other supplier links / equipment.

Please direct all queries to radionetworkprotection@bt.com



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Cenos Offshore Windfarm Ltd &
Green Volt Offshore Windfarm Ltd
(Flotation Energy Ltd & Vårgrønn AS)

By email

12 March 2026

Our reference: CEN001-FLO-CON-CAG-LET-0022

Dear Sir / Madam

ELECTRICITY ACT 1989

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

The Electricity (Applications for Consent) Regulations 1990

MARINE (SCOTLAND) ACT 2010

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

MARINE AND COASTAL ACCESS ACT 2009

The Marine Works (Environmental Impact Assessment) Regulations 2007

00011544, 00011545, 00011546 & 00011547 - MarramWind Ltd – MarramWind Offshore Wind Farm – 75 and 110 kilometres off the North-East coast of Scotland

Thank you for consulting Green Volt Offshore Windfarm Ltd (Green Volt) and Cenos Offshore Windfarm Ltd (Cenos) on the section 36 consent, marine licence applications, Environmental Impact Assessment Report (EIAR) and supporting documentation for MarramWind Offshore Windfarm (MarramWind), submitted to the Scottish Ministers on 19 January 2026. MarramWind will be located in the North Sea, off the northeast coast of Scotland, between 75 and 110 kilometres (km) from the Aberdeenshire coast.

As Green Volt and Cenos are both being developed under the Joint Venture formed by Flotation Energy Ltd (Flotation Energy) and Vårgrønn AS (Vårgrønn), **a joint response has been prepared**. Flotation Energy is an offshore wind development company, headquartered in Edinburgh, UK. Founded in 2018, the company is pioneering the deployment of both floating and fixed offshore wind in Scotland, the UK and internationally. Vårgrønn is a dynamic offshore wind company based in Norway, dedicated to powering the energy transition through the development, construction, operation, and ownership of offshore wind projects and related infrastructure. Vårgrønn is a joint venture between Plenitude, an Eni-controlled company, and Norwegian energy investor HitecVision.

Green Volt was granted consent (section 36 and marine licences) by the Scottish Ministers on 19 April 2024 as well as planning permission by the Aberdeenshire Council for onshore activities on 21 March 2024. Cenos submitted its Scoping Report for offshore activities in April 2024 and its HRA Screening Report in May 2024 and received a Scoping Opinion from Scottish Ministers on 10 September 2024. The Cenos EIAR was submitted to Scottish Ministers in January 2025 and consultation for this application remains open at the time of writing. The proposed consenting boundary for MarramWind's array area is located approximately 9 km from Green Volt's array area and the proposed export cable corridor overlaps with the consented Green Volt transmission to landfall export cable corridor. The proposed consenting boundary for MarramWind's array area is 140 km from the Cenos array area, and the export cable corridor overlaps with the Cenos export cable corridor near the landfall.

Green Volt Offshore Windfarm Ltd (company number: SC698787), Cenos Offshore Windfarm Ltd (company number: SC718432), C/O CMS Cameron Mckenna Nabarro Olswang LLP, 4th Floor, Saltire Court, 20 Castle Terrace, Edinburgh, EH1 2EN. www.greenvoltoffshorewind.com. www.cenosoffshorewind.com.

Cenos response

Cenos notes the information presented within the MarramWind EIA, RIAA, application supporting documents and associated marine licence applications in relation to potential project–project interactions and acknowledges that the respective export cable corridors intersect in proximity to the proposed landfall area. Cenoss is content that these updates reflect the current understanding of potential interactions between the projects.

Cenos considers that, with appropriate coordination, the projects can co-exist without giving rise to significant adverse cumulative or in-combination effects. Cenoss is committed to continued engagement with MarramWind to support coordinated design development, consenting assumptions and construction planning.

In particular, ongoing engagement may be required in relation to:

- export cable routing and detailed cable crossing design;
- construction, maintenance and offshore survey phasing and timing, including the management of potential SIMOPS; and
- installation methodologies and access arrangements at landfall.

Cenos welcomes dialogue with MarramWind and relevant stakeholders as both projects progress through the EIA, consenting and detailed design stages, to minimise potential conflicts and ensure effective use of the offshore environment.

Green Volt response

Green Volt note that the MarramWind windfarm site is located approximately 9 km north of the Green Volt windfarm site and the proposed MarramWind export cable corridor partially overlaps with the consented Green Volt export cable corridor, with both corridors intersecting at the landfall.

MarramWind are part of the Peterhead Developers Forum, a collaborative group of offshore wind developers, including Green Volt and other projects, established to identify and manage potential project interactions across the region such as cable crossings, landfall access and potential constraints during construction and operation and maintenance activities. Green Volt encourages MarramWind to continue engaging through this forum to ensure interactions between the two projects are appropriately managed and potential impacts mitigated. On page 76 of Chapter 4 Project Description of the MarramWind Offshore EIA report, it is noted that the MarramWind project construction would commence in 2030. By this time Green Volt is expected to be operational and therefore MarramWind would need to consider impacts of project construction activities on the Green Volt operational activities, as well as interactions with the Green Volt export cable route. Green Volt welcomes ongoing dialogue with MarramWind in relation to these matters.

Green Volt are content that the cumulative effect assessment has considered the Green Volt project.

Yours sincerely

[Redacted]

Adam Payne

For and on behalf of Green Volt Offshore Windfarm Ltd and Cenoss Offshore Windfarm Ltd

Head of Consent, Flotation Energy

[Redacted]

Department of Agriculture,
Environment and Rural Affairs
("DAERA")

00011544, 00011545, 00011546 & 00011547 - MarramWind Ltd – MarramWind Offshore Wind Farm – EIA Section 36 consent and Marine Licence Applications - Consultation – Response Required by 3 March 2026

Marine Conservation

Marine Conservation welcomes the opportunity to comment on this consultation. We note that we were not consulted at earlier stages of the process, but we offer the following observations.

Given the nature of the proposal, several MPAs in Northern Ireland designated for seabird species with extensive foraging ranges should be included in future assessments. Indicative maximum foraging ranges include:

- Fulmar: ~542 km
- Great Skua: ~443 km
- Manx Shearwater: ~1,346 km
- Northern Gannet: ~315 km

We also wish to highlight that the HRA screening report concludes that Manx Shearwater presents no Likely Significant Effect (LSE) due to low numbers recorded across 24 months of digital aerial surveys. However, this evidence alone is not sufficient to rule out potential in-combination effects with other existing or proposed projects in the wider area. The possibility of displacement remains, and this species' extensive foraging range increases the likelihood that individuals may move through or utilise the area more frequently than surveys suggest. Therefore, it cannot be stated with certainty that there is no risk of LSE to Manx Shearwater.

Marine Licensing

Activities taking place below the mean high water springs mark may require a marine licence in accordance with the Marine and Coastal Access Act (MCAA) 2009.

Such activities include the construction, alteration or improvement of any works, dredging, or a deposit or removal of a substance or object below the Mean High Water Spring Tide (MHWST). It is the applicant's responsibility to take the necessary steps to ascertain whether their works will fall below the Mean High Water Springs mark.

If any parts of this proposal are on, in or over the licensable area, contact must be made with the Marine Licensing Team, DAERA Marine and Fisheries Division, Clare House, 303 Airport Road West, Sydenham Intake, Belfast, BT3 9ED, Tel: 028 90569247, Email: MarineLicensingTeam@daera-ni.gov.uk. Further guidance on the application process and associated forms are available on the DAERA website at [Marine Licensing | Department of Agriculture, Environment and Rural Affairs](#)

Dee District Salmon Fishery Board



Dee District Salmon Fishery Board

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

By email to MD.MarineRenewables@gov.scot
6th March 2026

Dear MD Team,

MarramWind Ltd – MarramWind Offshore Wind Farm – EIA Section 36 consent and Marine Licence Applications – Consultation Response Request

On behalf of the Dee District Salmon Fishery Board (Dee DSFB) we welcome the opportunity to respond to the MarramWind Offshore Wind Farm Limited - Consultation Request for the EIA.

Designations & Conservation Status - Atlantic Salmon

As a statutory body charged with the protection of Atlantic salmon and sea trout stocks within its district, the Dee DSFB has a duty to ensure that there are no significant adverse impacts upon the populations of these species.

The Dee has been designated as a Special Area of Conservation under the EC Habitats Directive 92/43 EEC on the Conservation of Natural Habitats and of Wild Flora and Fauna for Atlantic salmon (the principal species for which it receives this designation).

The International Union for Conservation of Nature's (IUCN) latest Red List of Threatened Species (December 2023) reclassified Atlantic salmon from 'Least Concern' to 'Endangered' in Great Britain because of a 30-50% decline in British populations since 2006 and 50-80% projected between 2010-2025. The Scottish Government has released a Scottish Wild Salmon Strategy which calls on government agencies, as well as the private sector, to prioritise the protection and recovery of Scotland's wild Atlantic salmon populations.

Salmon and many other key species of diadromous fish have also been identified as Priority Marine Features and UKBAP Priority Species.

Designations & Conservation Status - Other Species

The Dee District also supports populations of trout, eels and brook, river and sea lampreys.

Sea trout, common to all the rivers within the Dee District, are a priority species under the United Kingdom's Biodiversity Action Plan (UKBAP).

All lamprey species are protected under the EC Habitats Directive whilst river and sea lampreys are additionally protected under the UKBAP priority list.

Eels are a UKBAP priority species, critically endangered under the IUCN red list and protected under CITES.

Comments

The Dee DSFB welcomes the opportunity to respond to the EIA. In general we find it difficult to comment on the approaches and findings outlined in the EIA in relation to Atlantic salmon due to lack of robust scientific research, a key requirement to fully understand potential interactions.

We would request that where evidence of negative impact on a protected species is inconclusive and impacts of development are uncertain, reasonable efforts should be made to fill evidence gaps and decision makers should apply precaution within an overall risk-based approach. The following comments are provided, and we would also draw attention to Fishery Management Scotland's response to the 'Offshore Wind Policy Statement: Scotland's Offshore Wind Ambition' and highlight our previous comments from March 2023 in respect of the MarramWind Offshore Wind Farm Limited – MarramWind Offshore Wind Farm – Scotwind NE7 Site - Consultation on Request for Scoping Opinion.

1. For diadromous fish, there is a lack of current information on their use of the marine environment, and an apparent lack of ambition and resource to study and understand the potential impacts of developments on diadromous fish.
2. We remain keen to work constructively with the developers, Marine Directorate and NatureScot to identify appropriate monitoring and research programmes which will allow us to be able to assess the acknowledged risks of proposed marine developments in a more appropriate manner. There is a clear and urgent need to fund, plan and start strategic research on the movement, abundance, swimming depth, feeding behaviour and impact pathways relevant to diadromous fish. Such research would clearly feed into the potential mitigation measures that might be deemed appropriate, and the conditions under which such mitigation should be enacted. Given the scale of development in the North Sea, developers should be required to work together to fund strategic monitoring, to allow more certainty for all involved.

The scale of proposed offshore developments and other technical approaches to marine renewables development represents a step-change in the exposure of marine animals of high cultural and economic significance to attendant risks. As highlighted above, understanding of many of these risks is insufficient to support proposals for mitigation even at the stage when substantial developments are being submitted for licensing. The cumulative impact of such proposals, alongside those developments already submitted or likely to follow in the near future is potentially even greater. We believe that more needs to be done to ensure that the best

scientific talent is made available to find practicable ways to address the unresolved uncertainties.

3. We would request that the developer contributes to monitoring which could address evidence gaps identified the ScotMER Fish Specialist Receptor Group evidence map. With reference to DF.01-2022: Spatial and Temporal Distribution, DF.02-2022: Survival and progression rates in relation to passing through marine renewable areas, DF.03-2022 Influence on migratory patterns due to cable deployment (EMF), DF.04-2022: Effects on diadromous fish behaviour including fish aggregations around devices (ecological traps) and DF.05-2022: Impacts of noise, including particle motion and direct impact high intensity sound from pile driving and detonation of unexploded ordnance. Potentially causing both direct physical impact and displacement e.g. less foraging more predation.
4. A more widespread body of scientific research and its effective incorporation into environmental decision-making is required to achieve the dual objectives of marine development and ensuring that human impact on the marine environment is managed to protect and enhance important marine ecosystems and species. The Dee DSFB would recommend that further robust scientific research into salmonid migration and potential stressors within the marine environment is undertaken to protect this species, which is ecologically, culturally and economically important to Scotland.

If you require any further information, please do not hesitate to contact me.

Yours sincerely

[Redacted]

Edwin third

River Operations Manager, Dee District Salmon Fishery Board

Hywind Scotland

From: [Redacted]
To: [MD Marine Renewables](#)
Cc: [Redacted]
Subject: RE: 00011544, 00011545, 00011546 & 00011547 - MarramWind Ltd – MarramWind Offshore Wind Farm – EIA Section 36 consent and Marine Licence Applications - Consultation – Response Required by 6 March 2026
Date: 11 February 2026 11:39:13
Attachments: [image001.png](#)
[image002.png](#)
[image004.png](#)
[image003.png](#)

Dear MD-LOT Marine Renewables Team,

The Hywind Scotland project noticed that the red line boundary overlaps with our current export cable corridor, therefore we would like to be kept informed of further developments with an opportunity to comment in future.

Best regards,

Marta

Marta Kucharska

Offshore environmental specialist

REN EUR RD

Equinor Polska sp. z o.o.

+ [Redacted]

[Redacted]

Visitor address: Aleja Grunwaldzka 472C, 80-309 Gdansk
Marszałkowska 107, 00-110 Warszawa

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Please consider the environment before printing this email

Fisheries Management Scotland (“FMS”)



T: +44 (0)131 221 6567

E: [Redacted]

Licensing Operations Team
Marine Directorate
By e-mail

13 March 2026

Dear Sir/Madam

**00011544, 00011545, 00011546 & 00011547 - MarramWind Offshore Wind Farm – EIA
Section 36 consent and Marine Licence Applications**

Fisheries Management Scotland is the representative body for Scotland's District Salmon Fishery Boards, the River Tweed Commission and charitable Rivers and Fisheries Trusts. Our members work to conserve Scotland's valuable and iconic wild salmon and freshwater fish and fisheries and the aquatic environment on which they depend.

Offshore renewable energy has an important role to play if the Scottish Government are to meet their commitment for Scotland to reach net-zero emissions of all greenhouse gases by 2045. However, there remain a number of outstanding questions and concerns about the potential negative effects on diadromous fish, including Atlantic salmon and sea trout.

District Salmon Fishery Boards have a statutory duty to protect and improve salmon and sea trout fisheries. In assessing marine renewable energy developments (wind, wave or tidal), it is important that DSFBs and Fisheries Trusts, can be assured that all potential negative impacts have been assessed in full, and mitigations put in place. Where uncertainty remains, the developer should be required to contribute to research which will help fill these evidence gaps, as a condition of their operational consent. In addition, and in the light of the nature crisis, we believe that all developers should contribute to projects designed to conserve and restore important habitat at a catchment scale.

Across Scotland, wild salmon populations are in crisis, and face a range of pressures, some of which are under human control. The Scottish Government have published a [wild salmon](#)

[strategy](#) and [implementation plan](#), which sets out the actions to be taken over a five year period to 2028. The implementation plan includes a number of actions under the heading of "understanding and mitigating pressures in the marine and coastal environment".

Where salmon populations are below their conservation limits, any additional pressure, including from marine renewables, cannot be considered sustainable. Scottish salmon rivers are categorised by the Scottish Government under The Conservation of Salmon (Scotland) Regulations 2016, according to the likelihood of them meeting their conservation limits. The most recent river gradings have been [published for 2026](#). There are now 115 rivers across Scotland graded as Category 3, meaning there is a less than 60% probability of meeting their conservation limit.

It is now well-recognised that populations of Atlantic salmon have rapidly deteriorated across their native range. In the latest species reassessment by the [IUCN Red List](#) of Threatened Species, released in December 2023, Atlantic salmon have been reclassified from 'Least Concern' to 'Endangered' in Great Britain (as a result of a 30-50% decline in British populations since 2006 and 50-80% projected between 2010-2025), and from 'Least Concern' to 'Near Threatened' in terms of global populations (as a result of global populations declines of 23% since 2006).

We note, and support, the recent position that the Marine Directorate have taken - "*MSS do not consider it appropriate for an EIA/HRA to conclude there is no or negligible impact just because no evidence exists of the impact. MSS advise that impacts to diadromous fish must be adequately investigated, rather than relying on a lack of evidence to claim there is no impact*".

There is considerable uncertainty around the potential for impacts of offshore wind farms on Atlantic salmon, with limited evidence to support claims of lack of impacts. Given the significant decline in wild Atlantic salmon populations in recent years we are strongly of the view that a precautionary approach in assessments is required. Such an approach should take into account both the interactions of migratory fish with the project site, but also with the proposed cabling routes and landfall. Assessments of impacts on migratory fish species should also consider cumulative impacts, not only at sea, but also any impacts associated with terrestrial infrastructure, energy transmission and with particular emphasis on associated river crossings for cables.

Under Scottish Marine Energy Research (ScotMER), the [Diadromous Fish Receptor Group](#) has identified evidence gaps related to the health, distribution, and impacts on Diadromous fish (salmon, sea trout, etc.). Scottish Government has published an 'evidence map' (available for download at the above link) which identifies and scores these evidence gaps according to a specific prioritisation process. It is important that each of these evidence

gaps is considered in full by the applicant, and developers should *contribute* to filling these evidence gaps as a **specific condition of consent**.

Following recent engagement with members of Fisheries Management Scotland we highlight in particular, the following priorities identified through ScotMER:

- DF.01-2022: Spatial and Temporal Distribution
- DF.04-2022: Effects on diadromous fish behaviour including fish aggregations around devices (ecological traps)
- DF.02-2022: Survival and progression rates in relation to passing through marine renewable areas
- DF.03-2022: Influence on migratory patterns due to cable deployment (EMF)

Fisheries Management Scotland did not have capacity to respond at earlier stages of the planning process for this development, but as noted in Chapter 13, we did supply pre-application information. The Dee DSFB requested further consultation with Marine Scotland Science and FMS, specifically in relation to the ScotMER Diadromous Fish Specialist Receptor Group. Unfortunately, this further engagement did not take place and we are disappointed that a significant evidence gap identified by the above process does not appear to have been considered by the developer. New structures in the marine environment have the potential to act as ecological traps, or to aggregate predators. We are strongly of the view that significant numbers of post smolt salmon are likely to migrate in the vicinity of the proposed development. This includes post smolts from east coast rivers, but also from rivers draining into the southern Moray Firth.

We recognise that predation impacts relating to aggregation of predatory fish or marine mammals are challenging to assess and manage at the development site, but we would like to see recognition of this potential impact and funding for appropriate mitigation measures should the developed be consented. In particular, we would draw the attention of MD-LOT and the developer to recent work by the Sea Mammal Research Unit to test a 'detect and deter' system designed to prevent seals from entering rivers to predate on salmonids, most recently on the River Dee. We consider that investment in such systems, and associated infrastructure, by the developer, would be a potential means of mitigating predation impacts on salmonids and we would welcome further discussion on this point.

We would emphasise that to date, and as detailed above, there remains considerable uncertainty around evidence of impacts on salmon and other diadromous species. We therefore expect to see proposals for strategic research **and** mitigation. In the case of mitigation, this should be focussed, in line with international advice via NASCO, on projects which improve freshwater conditions and increase the number of healthy wild salmon and sea trout smolts leaving Scotland's rivers.

We note, and welcome, the consideration of terrestrial infrastructure with regard to salmonids in Chapter 23. We note the stated lack of research on the impacts of EMF from cabling buried under watercourses, and the statement that "it is difficult to completely rule out the possibility of an impact, particularly as fish are likely to be exposed for longer periods of time while within a watercourse in comparison to individuals passing over a subsea cable during migration". We believe that this is an important issue and consideration should be given to designing and funding a research project to investigate this further. The concerns of the Ugie DSFB relate to a potential for cumulative impacts arising from cable crossing from multiple landfall sites, including the proposed development. It would therefore seem reasonable for developers to come together to design a study to demonstrate the lack of impact suggested in the EIA report. FMS would be happy to engage with developers on such a project.

In addition to EMFs, should the development be consented, we would welcome further engagement with FMS and relevant members on the following points:

- Appropriate buffer zones to protect burns/ rivers from the project infrastructure. Any buffer zone should also apply to the construction corridor associated with the infrastructure – vehicle movements, exposed soil etc. should be avoided within this buffer zone.
- Culverts (if any) associated with stream crossings should be installed flush with the stream bed to ensure continuity of substrate movement and fish migration. We would emphasise that small streams require particular attention, and many of the issues that we have identified in the past have been associated with small water courses. SEPA guidance¹ should be followed, but the developer should also be aware that there are a number of specific offences included within the Salmon and Freshwater Fisheries (Consolidation) (Scotland) Act 2023, which relate to the protection of young salmon and spawning beds and obstructing the passage of fish. These require to be considered in full. Early and meaningful engagement with relevant DSFBs about these provisions is strongly recommended.
- We would expect to see a species protection plan for salmon and sea trout.
- We would like to see regular and meaningful engagement with DSFBs and Trusts throughout the pre-construction and construction phase. The costs of our members time should be met by the project.
- Our members have considerable experience of dealing with infrastructure projects and unfortunately, we have had to address environmental impacts when things go wrong. With that in mind, we don't consider that General Environmental Management Plans are sufficient, in isolation, to avoid pollution of water courses. Therefore, the

¹ <https://www.sepa.org.uk/media/151036/wat-sg-25.pdf>

Environmental Clerk of Works should regularly engage with DSFB and Trust staff to ensure that any activities which risk harm to the water environment are appropriately designed, managed and mitigated, in particular with regard to tracks, drainage and other infrastructure.

- Baseline environmental data (electrofishing, invertebrates (including freshwater pearl mussels), and a full audit of any Invasive Non-Native Species (INNS)) should be completed, written up in an easily accessible manner and used to develop a shared understanding with DSFBs and Trusts of any environmental impacts arising from the work.
- The results from these baseline surveys should guide the construction method statements used by the developer and any mitigation required (e.g. timing of work, periods of works restriction to avoid spawning and emergence of fry, mitigation to prevent further spread of INNS etc.). Advice should be sought from the appropriate DSFB and Trust in advance of construction starting. Again, the costs of our members time should be met by the project.
- Pollution prevention measures should be discussed with DSFBs, and we expect these to be adhered to at all times, through good site management and recruitment of sub-contractors with a proven track record of delivering sound environmental management. Live sedimentation and pollution monitoring should be put in place to assess any impacts of construction work and allow a swift response to incidents if they occur. This is particularly important for burns with salmonid populations or where there are freshwater pearl mussels downstream.
- If additional surveys or fish rescues are required (as set out in section 8.4.33) members of Fisheries Management Scotland are highly competent and possess extensive local knowledge of the river catchments in question. They should be contracted to undertake any such work.
- If any of the construction work will prevent angling from occurring, recompense for any annoyance should be included. Close liaison on this matter with relevant DSFBs and Trusts will be vital, recognising that fishing is often let several months in advance, and is often associated with local accommodation and other services.
- We are strongly of the view that the proposed development should offer significant biodiversity enhancements within a reasonable timescale and with reasonable certainty as required by National Planning Framework 4. Such enhancements should be relevant to our efforts to restore rivers and key fish populations and engagement with DSFBs and Trusts should be an integral part of designing such significant biodiversity enhancements. Fisheries Management Scotland would be happy to facilitate engagement on this important issue, and on any of the issues identified above.

Conclusion

It should be emphasised that we have no wish to prevent or delay any proposed development unnecessarily and we remain keen to work constructively with the developers and the Marine Directorate to identify appropriate monitoring programmes which will allow us to be able to assess the acknowledged risks of this development, and other proposed developments in a more appropriate manner. There is a clear and urgent need to fund, plan and start strategic research on the movement, abundance, swimming depth, feeding behaviour and impact pathways relevant to diadromous fish. Developers should be required to work together, as a condition of consent, to fund strategic monitoring relating to diadromous fish, in order to allow more certainty for all involved.

Yours faithfully,

[Redacted]

Alan Wells

CEO, Fisheries Management Scotland

Historic Environment Scotland (“HES”)



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By email to:

MD.MarineRenewables@gov.scot

Marine Directorate (Marine Renewables)
Marine Laboratory
375 Victoria Road
Aberdeen
AB11 9DB

Longmore House
Salisbury Place
Edinburgh
EH9 1SH

Enquiry Line: 0131 668 8716
HMConsultations@hes.scot

Our case ID: 300062420

28 January 2026

Dear Marine Directorate

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

The Marine Works (Environmental Impact Assessment) (Scotland) Regulations 2017 Marram Wind Offshore Windfarm - section 36 and Marine Licence consent for floating windfarm

Thank you for your consultation on these Environmental Impact Assessment (EIA) Report, S36 and Marine Licence applications, which we received on 19 January 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.

The relevant local authority archaeological and 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 also other topics such as unscheduled archaeology, category B and C listed buildings, and conservation areas.

Our advice

From 1 January 2025 we no longer provide advice on undesignated underwater cultural heritage. This includes the preparation of documents for post-consent activities including Written Schemes of Investigation or Protocols for Archaeological Discoveries. For EIA projects, the relevant competent authority must ensure that they have access to sufficient expertise to examine the EIA Report in accordance with the relevant regulations.

We have considered the information received and do not have any comments to make on the offshore elements of the proposals. We will respond separately to consultation from the planning authority about onshore elements of the proposals. Our decision not to provide comments should not be taken as our support for the proposals. This application should be determined in accordance with national and local policy on development affecting the historic environment, together with related policy guidance.

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

Scottish Charity No. **SC045925**

VAT No. **GB 221 8680 15**



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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 consultations mailbox, hmconsultations@hes.scot. If you have questions about this response, please contact Mary MacLeod Rivett at ^[Redacted]

Yours sincerely

Historic Environment Scotland

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

Scottish Charity No. **SC045925**

VAT No. **GB 221 8680 15**



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Annex

Heading

Subheading

Heading

Subheading

Heading

Subheading

Historic Environment Scotland
26 January 2026

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

Scottish Charity No. **SC045925**

VAT No. **GB 221 8680 15**

JNCC

From: [JNCC Offshore Industries Advice](#)
To: [MD Marine Renewables](#)
Cc: [Redacted] [JNCC Offshore Industries Advice](#)
Subject: RE: 00011544, 00011545, 00011546 & 00011547 - MarramWind Ltd – EIA Section 36 and Marine Licence
Date: 23 January 2026 14:47:02
Attachments: [image002.png](#)
[image004.png](#)
[image005.png](#)

Good Afternoon Jennifer,

Thank you for consulting JNCC on the MarramWind Offshore Windfarm.

NatureScot is now authorised to exercise the JNCC's functions as a statutory consultee in respect of certain applications for offshore and offshore waters (0-200nm) adjacent to Scotland.

We have reviewed the operations and this would fall under that delegation, therefore NatureScot should provide a full response.

NatureScot will contact JNCC directly if they require any input where this is required.

Have a nice weekend.

Kind regards,

Jon Cannon

Offshore Industries Advice Officer

Marine Management Team

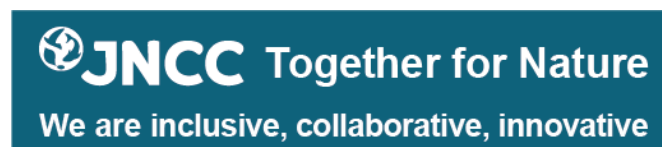
JNCC, Inverdee House, Baxter Street, Aberdeen, AB11 9QA

Tel: 01224 083522

Working pattern: Monday to Friday

[Website](#) [Twitter](#) [Facebook](#) [LinkedIn](#)

[Sign up to the JNCC Nature News monthly newsletter](#)



-

Joint Radio Company Ltd ("JRC")

From: [Joint Radio Company](#)
To: [MD Marine Renewables](#)
Cc: [Redacted]
Subject: Re: RE: 00011544, 00011545, 00011546 & 00011547 - MarramWind Ltd – MarramWind Offshore Wind Farm – EIA Section 36 consent and Marine Licence Applications - Consultation – Response Required by 6 March 2026
Date: 12 March 2026 15:40:31

Good Afternoon,

Apologies the objection earlier was sent in error this site was cleared last year and is still OK, see below for details:

If any details of this proposal change, particularly the disposition or scale of any turbine(s), this clearance will be void and re-evaluation of the proposal will be necessary.

Dear Sir/Madam,

Name/Location: MarramWind Onshore substation

Max Substation Heights:

	Level platform height AoDm	Foundation & plinth height (m)	Maximum substation building height (m)	Approximate substation elevation AoDm
Scenario 1a				
Substation Phase 1 block	48.37	0.75	17.50	66.62
Substation Phase 2 block	46.98	0.75	17.50	65.23
Substation Phase 3 block	52.82	0.75	30.00	83.57

Lighting mast extending to 32m

Substation Phase Corners (worst case scenario) at NGR:

North East Platform (Phase 1 AC – Scenario 1a)

Centre: NK0841546203
NW: NK0835646304
NE: NK0850846274
SW: NK0832246133
SE: NK0847446102

North West Platform (Phase 2 AC – Scenario 1a)

Centre: NK0817346221
NW: NK0809646366
NE: NK0830546317
SW: NK0804046124
SE: NK0824946076

South Platform (Phase 3 DC – Scenario 1a)

Centre: NK0822445913

NW: NK0812446069

NE: NK0838246010

SW: NK0806645815

SE: NK0832445756

This proposal is cleared - for this scenario and its specific coordinates only - with respect to radio link infrastructure operated by the local energy networks.

If any of the substation phases are moved in the future away from / beyond the coordinates provided, this clearance will not be valid and will require reanalysis for its impact on the radio link infrastructure operated by the local energy networks.

JRC analyses proposals for wind farms on behalf of the UK Fuel & Power Industry. This is to assess their potential to interfere with radio systems operated by utility companies in support of their regulatory operational requirements.

In the case of this proposed wind energy development, JRC does not foresee any potential problems based on known interference scenarios and the data you have provided. However, if any details of the wind farm change, particularly the disposition or scale of any turbine(s), it will be necessary to re-evaluate the proposal.

In making this judgement, JRC has used its best endeavours with the available data, although we recognise that there may be effects which are as yet unknown or inadequately predicted. JRC cannot therefore be held liable if subsequently problems arise that we have not predicted.

It should be noted that this clearance pertains only to the date of its issue. As the use of the spectrum is dynamic, the use of the band is changing on an ongoing basis and consequently, developers are advised to seek re-coordination prior to considering any design changes.

Regards

Wind Farm Team

Friars House
Manor House Drive
Coventry CV1 2TE
United Kingdom

Office: 02476 932 185

JRC Ltd. is a Joint Venture between the Energy Networks Association (on behalf of the UK Energy Industries) and National Grid.

Registered in England & Wales: 2990041

[About The JRC | Joint Radio Company | JRC](#)

We maintain your personal contact details and are compliant with the Data Protection Act 2018 (DPA 2018) for the purpose of 'Legitimate Interest' for communication with you. If you would like to be removed, please contact^[Redacted]

On Thu, 12 Mar at 6:49 AM , Joint Radio Company <wftracker@jrc.co.uk> wrote:

If any details of this proposal change, particularly the disposition or scale of any turbine(s), this clearance will be void and re-evaluation of the proposal will be

necessary.

**Please do not reply to this email - the responses are not monitored.
If you need us to investigate further, then please use the link at the end of this response
or login to your account for access to your co-ordination requests and responses.**

Dear Ross,

Site Name: Marram Wind

Offshore Development:

Max Tip Height: 350m

Max Rotor Radius : 163m

Max HH (Calc: 187m)

(from Scoping Report: EIA - Plate 2.3.2)

This offshore proposal is *cleared* - with respect to radio link infrastructure operated by the local energy networks.

Onshore: JRC CANNOT clear this part of the development, due to lack of clear location information (NGR, elevation).

NB: This information was requested by email on 16/9/24

Due to lack of information, JRC **must ***object*** to the onshore part of this development**, due to the proximity of protected links in the intended development area.

JRC analyses proposals for wind farms on behalf of the UK Fuel & Power Industry. This is to assess their potential to interfere with radio systems operated by utility companies in support of their regulatory operational requirements.

In the case of this proposed wind energy development, JRC does not foresee any potential problems based on known interference scenarios and the data you have provided. If any details of the wind farm change, particularly the disposition or scale of any turbine(s), it will be necessary to re-evaluate the proposal.

In making this judgement, JRC has used its best endeavours with the available data, although we recognise that there may be effects which are as yet unknown or inadequately predicted. JRC cannot therefore be held liable if subsequently problems arise that we have not predicted.

It should be noted that this clearance pertains only to the date of its issue. As the use of the spectrum is dynamic, the use of the band is changing on an ongoing basis and consequently, you are advised to seek re-coordination prior to submitting a planning application, as this will negate the possibility of an objection being raised at that time as a consequence of any links assigned between your enquiry and the finalisation of your project.

JRC offers a range of radio planning and analysis services. If you require any assistance, please contact us by phone or email.

Regards

Wind Farm Team

Marine Directorate – Marine Analytical Unit (“MAU”)

MarramWind Offshore Wind Farm

Marine Analytical Unit (“MAU”) Response

Marine Directorate

A section 36 consent, marine licence application, Environmental Impact Assessment (“EIA”) report and supporting documentation has been provided by MarramWind Limited. The EIA report includes a description of a range of potential impacts, of which this response focuses only on the assessment of social and economic impacts.

Methodology

The potential effects have been considered at a number of different geographies:

- Local: Scottish electoral wards (council wards) including communities and ports close to the main Project activities
- Regional: wider areas of one or a group of local authority districts including markets for employment and supply chain activities resulting from the Project
- National: Scotland, including recognition of the overarching UK policy context

The applicant states that many of the impacts are likely to have a regional epicentre in the northeast of Scotland, which includes the nearest land to the Project as an operational wind farm as well as the area of coast proposed for landfall. This area is within the local authority areas of Aberdeenshire and Aberdeen City. The area of the four wards comprising of the hinterland of Aberdeen, Peterhead and Fraserburgh is also represented as a comparator for the socio-economic characteristics of the port data.

While the applicant states that the whole lifetime of the project including construction, operation and maintenance (“O&M”), and decommissioning has been considered, socio-economic impacts as a result of decommissioning have not been assessed in detail and instead a decommissioning programme will be developed which will consider the socio-economic consequences. Therefore, the MAU cannot comment on the impacts during the decommissioning phase.

The assessment uses magnitude and significance methodology. The magnitude is determined by the importance of the receptor (economic, social or tourism and recreation). The sensitivity is determined by the ability of the study area to absorb the change. The magnitude and sensitivity are combined to identify the significance of the effect, with a significant effect defined as a major or moderate effect, which is intermediate to a very large change in receptor condition, which are likely to be an important consideration to the study area. The indicative assessment thresholds that are used differ based on the impact, based on a quantitative scale originally developed for Hinkley Point C. While the use of this quantitative scale may be appropriate, the MAU would require further information on the rationale of using this in an offshore wind context to be able to make a full assessment of its use.

A maximum design scenario has been used to assess the magnitude and significance of the potential effects. This means that minimum beneficial and maximum adverse effects should be presented.

Assessment of impacts

All socio-economic impacts identified during the scoping stage were considered. Socio-cultural and distributional effects, which were proposed to be scoped out in the Scoping Report, have also been included.

The assessments considered the following potential effects:

- Effects from Project demand for labour
- Effects from supply of labour to meet Project demand
- Effects from Project demand for products and services
- Effects from supply of products and services
- Effects from economic activity (GVA) within the local and wider economies
- Impact from increase in population
- Effects from Project transport and access requirements
- Effect from use of land and marine areas
- Effects from disruption to community access to recreational, tourism and other amenity resources
- Effects from activities affecting specific natural assets with socio-economic importance
- Effects from disruptions to commercial activities
- Effects from socio-cultural and distributional effects

Transboundary effects, which were proposed to be scoped out at the Scoping stage, have not been assessed.

Impacts

During the construction phase, the assessment anticipates a major (significant) beneficial effect in terms of supply of Labour to meet Project demand. It also anticipates a major (significant) beneficial effect in terms of supply of products and services.

It is unclear if the applicant has concluded that increased economic activity (GVA) within the local and wider economies is being anticipated to have a moderate (significant) beneficial or moderate (not significant) beneficial effect. This is due to the discrepancies between the text on page 79 and table 1.28 on page 97,

The impact on the use of land and marine areas has been anticipated to be moderate (potentially significant) adverse during the construction phase. However, it is assessed to be not significant because of the “*underlying conservative approach and because the variety and range of effects provides a wide scope for design and mitigation actions*”. The MAU recommends that the overall significance of any impacts should be assessed prior to any proposed mitigation. The MAU cannot comment on the suitability of the design or mitigation actions that will occur at a later stage.

For the O&M phase, Project demand for labour, Project demand for products and services, Supply of products and services, and socio-cultural and distributional effects are all anticipated to have a moderate (significant) beneficial effect. Supply of labour to meet Project demand, and economic activity (GVA) within the local and wider economies are both anticipated to have major (significant) beneficial effects.

A number of mitigation and enhancement measures have been outlined within the socio-economic impact assessment including the development of the Socio-Economic Action Plan ("SEAP"). The MAU cannot comment on the suitability of the mitigations and enhancements themselves but welcomes the stakeholder consultation that took place to inform the development of the SEAP.

Consultation and engagement

The applicant states that consultation and engagement have taken place throughout the process to date. Alongside consultation on the scoping report, stakeholder consultations with Aberdeenshire Council, Moray Council, Highland Council, Scottish Enterprise, Highlands & Islands Enterprise, ETZ, Buchan Development Partnership, and Peterhead Community Council, was also undertaken to inform the development of SEAP.

Summary

Overall, the assessment of socio-economic impacts during construction and O&M is conducted to a satisfactory methodological standard. The MAU cannot comment on the assessment of impacts during the decommissioning phase as this has not been provided in any detail. The MAU suggests where comparisons to the literature or other projects are used, information should be included as to why this is suitable.

MarramWind Offshore Wind Farm

Marine Analytical Unit (MAU) Response **Marine Directorate**

The application does not provide a quantitative estimate of the total income-at-risk for fleets active within the Project Development Area within Chapter 14 (Commercial Fisheries). The assessment does present the average value of landings from ICES rectangles containing the Offshore Array Area (OAA) and export cable corridor. A figure of approximately £1.6 million per annum is presented within Chapter 30 (Socio-Economics) as an estimate of the reduction in landed value associated with the ICES rectangle containing the OAA, which could be interpreted as the income-at-risk. However, this estimate appears to assume uniform fishing activity across the relevant ICES rectangle, which may not reflect actual fishing patterns. The estimate also appears to exclude fishing activity associated with ICES rectangles 44E8, 44E9, 45E8 that overlap the offshore export cable corridor, potentially understating the total value of fishing activity that may be affected.

While the landed value provides an indication of income-at-risk, it does not capture additional operating costs that may arise as a consequence of the development, including increased steaming distances, or displacement to alternative grounds. The MAU therefore recommends that profit-at-risk is estimated, where feasible, as this would provide a more complete assessment of the potential economic impacts on affected fishing fleets.

The assessment also identifies a range of displacement related impacts, including increased fishing pressure on adjacent grounds, gear conflict and additional steaming costs. These impacts have only been considered qualitatively and are not supported by any quantitative assessments of their potential economic consequences. The MAU recognises the uncertainty associated with estimating fisheries displacement and redistribution, but the application could have included modelled scenarios or estimates of the potential economic consequences of displacement. Scenario analysis, sensitivity testing, or the presentation of a range of potential outcomes would have provided a clearer indication of the scale of potential impacts while explicitly reflecting the associated uncertainty.

Overall, the MAU considers that the application does not fully quantify the potential economic impacts of commercial fisheries arising from the Proposed Development. Whilst a qualitative assessment of displacement effects is reasonable given the uncertainties involved, the inclusion of quantitative assessment using the methods outlined would strengthen the assessment and provide a more robust understanding of the potential commercial fisheries impacts.

Marine Directorate -
Science, Evidence, Data,
and Digital (“MD-SEDD”)



Scottish Government
Riaghaltas na h-Alba
gov.scot

E: MD-SEDD-RE_Advice@gov.scot

**JENNIFER GOODHEIR
CASEWORK OFFICER
LICENCING OPERATIONS TEAM
MARINE DIRECTORATE
THE SCOTTISH GOVERNMENT**

06/03/2026

RE: 00011544, 00011545, 00011546 & 00011547 - MarramWind Ltd – MarramWind Offshore Wind Farm – EIA Section 36 consent and Marine Licence Applications

Advisors from the SEDD Marine Renewables & Ecology Team have reviewed the above request and provide the following advice.

Commercial Fisheries Advice

Environmental Impact Assessment

To summarise the impact assessment, the EIA found potential significant impacts during the construction, operations and maintenance and decommissioning phases relating to the offshore array area and export cable corridor for the following fleets: demersal otter trawl, demersal seine, scallop dredge and potting.

The significant impacts are related to the following three impact pathways:

1. 'Reduction in access to, or exclusion from, established fishing grounds within the offshore array area',
2. 'Reduction in access to, or exclusion from, established fishing grounds within the export cable corridor' and
3. 'Displacement leading to gear conflict and increased fishing pressure on adjacent grounds'.



After the application of several proposed mitigation measures, the residual likely significant effects remain only for the 'Reduction in access to, or exclusion from, established fishing grounds within the offshore array area' for demersal otter trawl during the construction, operations and maintenance and decommissioning phases. The remaining fishing fleets mentioned above for the three impact pathways are reduced to 'minor adverse' (not significant) with the application of proposed mitigation measures.

Within Table 14.7 'Maximum design scenario for impacts on commercial fisheries', Impact C1: Reduction in access to, or exclusion from established fishing grounds within the OAA' The justification column states that:

'It is assumed that fishing is not prohibited from resumption but is unlikely to resume within the OAA due to the presence of mooring lines within the water column, anchors and WTG floating units deployed throughout the construction stage making access not practically feasible.'

It is assumed that the fishing effort that would otherwise have taken place within the OAA is not removed entirely, but partially displaced to surrounding area, as assessed in Impact C3.

These two statements in *italics* appear to state two different assumptions, the first that fishing will be unlikely to resume within the offshore array area and the second that fishing in the offshore array area will only be partially displaced. MD-SEDD seek clarification on these assumptions.

Mitigation

In summary, the EIA found potential significant impacts during the construction, operations and maintenance and decommissioning phases for the fishing fleets mentioned above. The applicant has proposed a variety of mitigation measures to reduce these potential impacts. For the offshore array area, the mitigation measures proposed include a fisheries fund, an access corridor along the Golden Eagle to Claymore Oil Export pipeline, exploration of coexistence within the offshore array area and fisheries monitoring and related updates to the Fisheries Mitigation, Monitoring and Communication Plan (FMMCP). For the offshore

export cable corridor during the construction phase, the mitigation measure proposed is disruption agreements.

MD-SEDD note that the assessment states that the mitigation proposed for the offshore array area, the export cable corridor and the following fishing fleets: demersal otter trawl, demersal seine, scallop dredge and potting, reduces the significance of the impacts from moderate and significant, to minor and not significant in EIA terms. However the residual likely significant effects for the 'Reduction in access to, or exclusion from, established fishing grounds within the offshore array area' for demersal otter trawl during the construction, operations and maintenance and decommissioning phases remain significant in EIA terms even after the application of the proposed mitigation. MD-SEDD provide the following detailed comments:

Offshore array area

M-219 Fisheries fund

MD-SEDD note that the *'Fisheries Fund shall be established for the array area once determined, operating during the construction stage and extending through the first five years of operation. The Fund shall be directed towards fisheries where moderate adverse effects are identified within the EIA Report.'*

MD-SEDD would like to clarify if this means that the fund will only be available to demersal otter trawl fisheries identified as 'moderate adverse' (significant), or if the fund will also be available to demersal seine, scallop dredge and potting fisheries as they were identified as 'moderate adverse' (significant) prior to the implementation of the proposed mitigation measures?

MD-SEDD also note that *'The Fisheries Fund shall not provide direct compensation to individual businesses. Instead, it shall support the fishing sector more broadly by funding research and initiatives that promote co-existence, adaptation, and resilience. Priority areas of support shall include:*

- *Research and enhancement of target fish and shellfish stocks to strengthen ecological resilience and sustainability for example, Nephrops, monkfish and haddock.*
- *Co-designed initiatives such as gear innovation, diversification, operational adaptation, and business resilience.*

- *Collaborative, evidence-based investment to improve the long-term viability of fisheries.'*

MD-SEDD advise that whilst we support funded research, it does not constitute as a form of mitigation to reduce the level of significance of the potential impacts during the construction, operation and decommissioning of the development.

M-220 Access corridor along the Golden Eagle to Claymore Oil Export pipeline

MD-SEDD note that the access corridor means that *'No above-seabed infrastructure, including WTG floating units, moorings, anchors, or dynamic cables, shall be located across the existing pipeline situated in the centre of the OAA, nor within a 500 m buffer either side of the pipeline'*.

MD-SEDD have considered the SFF scoping response where they highlighted the importance of the pipeline gates for fishing vessels to fish across the pipeline and their request for the pipeline to be kept clear to allow fishing to resume along the pipeline. Given the statements mentioned above about the assumption that fishing will be unlikely to resume within the offshore array area, MD-SEDD would like to clarify if fishing can resume along the proposed pipeline access corridor and over the southern gate?

M-221 Exploration of coexistence within the offshore array area

MD-SEDD notes that the applicant has committed to undertaking an assessment to investigate opportunities for coexistence with fishing activity within the offshore array area. The assessment shall consider indicative infrastructure layouts and will provide an evaluation of the practicality of different fishing methods and give consideration to feasible gear adaptations. The applicant proposes to consult the Scottish Fishermen's Federation (SFF) on the Development, Specification and Layout Plan (DSLPP) process. It further states that the *'applicant will seek input from the SFF to inform consideration of whether areas compatible with floating wind infrastructure could potentially support fishing activity, taking account of gear types, spatial patterns, and operational constraints'*.

MD-SEDD advise there is the risk that coexistence opportunities cannot be found and therefore the significance of the potential impacts will not be reduced by this form of mitigation.

M-222 Fisheries monitoring and related updated to the FMMCP

MD-SEDD note that the applicant has committed to implementing a desk-based fisheries monitoring programme that extends across pre-construction, construction and post-construction stages, with annual reporting.

MD-SEDD advise that whilst monitoring is required, monitoring alone is not a form of mitigation as it does not change the significance of the potential impacts associated with the construction, operation and decommissioning of the development. Whilst MD-SEDD acknowledge that updates to the FMMCP may provide further mitigation post-monitoring, MD-SEDD advise that it is not possible at this stage to determine if this will help reduce the significance level of the potential impacts from the development as it is unknown what, if any, mitigation might be added or updated.

Overall, MD-SEDD advise that the above proposed mitigation measures form part of consent and licence conditions.

MD-SEDD advise that, given the points raised above, the only form of proposed mitigation remaining for the offshore array area is the pipeline access corridor. Given this is the only remaining proposed mitigation to reduce the significance of the aforementioned three impacts on the following fishing fleets: demersal otter trawl, demersal seine, scallop dredge and potting, MD-SEDD advise that these impacts remain significant in EIA terms.

Offshore export cable corridor

M-218 Disruption agreements

MD-SEDD note that the applicant has committed to establishing disruption agreements with fisheries (either static or mobile fleets) in relation to the offshore export cable corridor. MD-SEDD note that the disruption payments only apply '*where significant impacts remain after minimisation and mitigation measures have been applied for any construction or pre-construction stage temporary disruption to fishers*'. Since all of the impacts to the following fleets: demersal otter trawl, demersal seine, scallop dredge and potting have been reduced from 'moderate adverse' (significant) to 'minor adverse' (not significant) after proposed mitigation within the export cable corridor, this means that no fishery is eligible to apply for disruption agreements. MD-SEDD would like to clarify the purpose of proposing disruption payments if they will not mitigate impacts to affected fisheries. MD-SEDD advise that given the lack of proposed mitigation to reduce the significance of the aforementioned impacts on

the following fishing fleets: demersal otter trawl, demersal seine, scallop dredge and potting, MD-SEDD advise that these impacts remain significant in EIA terms.

The Scottish Government have no remit on compensation for fisheries, and therefore have no control over the use of this method as a way to reduce the potential significant impacts to not significant in EIA terms.

Cumulative impact assessment

For the impact pathway '*Reduction in access to, or exclusion from established fishing grounds*', the cumulative impact assessment found potential significant impacts during the construction, operation and decommissioning phases with Tier 1 and Tier 2 identified offshore wind farms for demersal otter trawl, demersal seine, dredging, pelagic trawl and pelagic seine.

For the impact pathway '*Displacement leading to gear conflict and increased fishing pressure on adjacent grounds*', the cumulative impact assessment found potential significant impacts during the construction, operation and decommissioning phases with Tier 1 and Tier 2 identified offshore wind farms and MPAs for all fisheries receptors.

MD-SEDD note that the applicant committed '*to implementing a proportionate fisheries monitoring programme (M-222) at the scale of the commercial fisheries regional study area. The Project continues to engage with the Regional Commercial Fisheries Working Group and is supportive of developing co-ordinated monitoring where feasible*'. The applicant has stated that this commitment to monitoring does not reduce the residual cumulative effect for impacts 1 and 2.

However, as stated previously, monitoring alone is not a form of mitigation and the potential cumulative impacts should remain significant in EIA terms. MD-SEDD advise that the above commitments form part of consent and licence conditions.

Transboundary effects

MD-LOT requested advice on whether European Economic Area (EEA) fisheries stakeholders should be consulted on commercial fisheries. The screening process for transboundary effects in relation to commercial fisheries identified the potential for effects on EEA states commercial fishing fleets, mainly the Netherlands, Germany, France, Denmark and Norway, given the offshore array area is located outside the 12 nm limit within the UK EEZ. Based on the assumption that fishing will not resume within the offshore array area during the construction stage, the EIA states that non-UK pelagic trawl fleets would be

directly affected by the loss of access to this area. These fleets have access rights and hold quota for herring in the North Sea. However given the low to medium value of this fishery within the offshore array area, as evidenced by the landing statistics and VMS data, the sporadic activity by non-UK pelagic trawl fleets in the offshore array area and export cable corridor and the high level of alternative fishing grounds for this fleet, the non-UK pelagic fleets are deemed to be of low vulnerability, with medium recoverability; the sensitivity is therefore, considered to be low. Given this, MD-SEDD advise that it is not necessary to consult these EEA fisheries stakeholders.

Physical Processes Advice

The MD-SEDD oceanography advisor has reviewed chapter 6, appendix 6.1, and the relevant sections of chapters 32 and 33 of the MarramWind OWF EIA report focusing on the potential impact to water column processes including tides, waves, and stratification and frontal systems.

MD-SEDD agree with the conclusions of chapter 6 on the potential project specific impacts to tides, waves, and stratification and frontal systems. MD-SEDD advise that the impact assessments are practical and sufficiently robust.

The EIAR does not identify any potential for cumulative impacts on stratification and frontal systems. MD-SEDD advise that there is considerable uncertainty surrounding these potential cumulative impacts. This is due mainly due to insufficient available evidence or pragmatic assessment methodologies surrounding the potential cumulative wind wake impacts from multiple wind farms. Active research is being undertaken in this area of wind farm wakes using state of the art research models but these are not pragmatic for use by EIA practitioners. MD-SEDD advise that coordinated and sustained monitoring of stratification in regions of developments such as this would help reduce the uncertainty of impact going forward.

Yours sincerely,

Renewables and Ecology Team

Marine Directorate – Science, Evidence, Data and Digital



Scottish Government
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JENNIFER GOODHEIR
CASEWORK OFFICER
LICENSING OPERATIONS TEAM
MARINE DIRECTORATE
SCOTTISH GOVERNMENT

2 September 2026

[REDACTED]

Commercial fisheries advice

[REDACTED]

[REDACTED]

[REDACTED]



Physical processes advice

Sandwave levelling impacts:

The EIA reports that sandwaves are not likely to be present in the OAA but there are some locations within the export corridor where they are likely to be found. Figures 9 and 12 within Appendix 6.3 indicate where they have been mapped. They appear to be limited to relatively small sections of the export corridor, most notably an area indicated in Figures 9 and 12 about half way along the export corridor.

The EIA chapter 6 (6.9.3.9) indicates that “35,000 m³ of material may require removal from the offshore export cable corridor” and Table 6.6 (maximum design scenario) quotes “35,000 m³ of sandwave clearance from the offshore export cable”. It is unclear how this volume was calculated, and there is some ambiguity as to whether it is the total volume of sediment requiring removal along the export cable, or whether it is just the volume required from sand waves (after making assumptions about their height/length etc.).

The timescale of recovery is extremely hard to predict as they appear to be very stable features, with the EIA reporting they have not changed much between two surveys conducted 13 years apart. However, when the EIA considered how fast they could reform, based on current speed and grain size data, the instantaneous transport rates calculated suggest they could re-form within 1.5 years. MD-SEDD advise that it is extremely difficult to predict bedform migration and formation rates at field locations, even using very specialist and high fidelity modelling techniques, and are also unable to provide a recovery timescale with any more confidence. MD-SEDD advise that the applicant has used spreadsheet based methods to assess the sediment transport rates, and MD-SEDD understand that that is generally the methodology accepted by industry for bedform/bedload sediment transport modelling for EIA. MD-SEDD advise that there are dedicated bedform and bedload sediment transport models that can be coupled to hydrodynamic and wave models. These are generally very computationally expensive and therefore generally impractical for use for very long (multi-year/decade) simulations of large regions such as this. MD-SEDD advise that adopting this approach would be unpragmatic in this case.

The EIA assesses the magnitude of impact of sandwave levelling as very low (see 6.9.3.20):

“The magnitude of impact to moraines and tunnel valleys within the Southern Trench NCMPA as a result of any sandwave levelling is also considered to be very low. This is because partial removal of sandwaves would not disturb the underlying designated features upon which they would be located. As such, the impact does not threaten the long-term viability of the Southern Trench NCMPA.”

MD-SEDD advise this “very low” assessment is most likely because of the relatively small, and localised, area where sandwaves would be impacted (based on Figure 9 and 12), compared to the total size of the NCMPA. It is not clear what proportion of the NCMPA would be impacted. MD-SEDD advise that the EIA assumes fishing will return during the O and M phases and advise that the applicant should clarify if the seabed disturbance has been included within the commercial fisheries section and provide justification if not.

Disposal mounds:

[REDACTED]

MD-SEDD advise that the applicant has assessed the magnitude of impact of disposal mounds within the Southern Trench NCMPA to be very low (6.9.3.26) due to the localised area of the impact:

The magnitude of impact to moraines and tunnel valleys within the Southern Trench NCMPA as a result of any disposal activities is also considered to be very low. This is because although it is recognised that the disposal mound(s) on the designated features may be permanent (or persist for a very long period of time), it would be an extremely localised impact covering a small proportion of the total footprint of the feature.

MD-SEDD advise that it is not clear what proportion of the NCMPA is likely to be impacted by either disposal mounds, or sandwave clearance, and therefore advise the applicant provide clarification.

MD-SEDD advise that these disposal mounds have not specifically been addressed within the commercial fisheries assessment, but that it is assumed fishing will return during the O

and M phase. MD-SEDD advise the applicant clarifies if the disposal mounds are included within the assessment of snagging during the O and M phase, and if not provides a justification to this.

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

Yours sincerely,

Marine Renewables and Ecology Team

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Maritime and Coastguard Agency (“MCA”)



Maritime &
Coastguard
Agency

Vaughan Jackson
Maritime and Coastguard Agency
UK Technical Services Navigation
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www.gov.uk/mca
6th March 2026

Licensing Operations Team,
Marine Directorate,
Scottish Government,
5 Atlantic Quay,
150 Broomielaw,
Glasgow,
G2 8LU.

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 MARRAMWIND LIMITED TO CONSTRUCT AND OPERATE THE MARRAMWIND 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 MarramWind 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

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 3, Appendix 15.1, informs the Shipping and Navigation chapter of the EIA presented in Volume 1, Chapter 15.

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 that full surveys were carried out in August 2022 and January 2023 but owing to application date being delayed these fell outside the two-year validity period. As such the surveys were repeated. The first of the surveys was conducted in Summer 2024 (19th July – 2nd August), and the second survey was conducted in Winter 2024 (6th – 19th November).

Additionally, Automatic Identification System (AIS) only summer and winter surveys were carried out during the same period which covered the offshore export cable corridor areas. Finally, 12 months of AIS data for 2024 have been utilised to characterise vessel traffic movements for the Reactive Compensation Platform (RCP) search area. The site-specific survey details are all presented in Table 15.6 of Chapter 15 of the EIA and Table 5.1 of the NRA.

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 15 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 planned three phase build out build of MarramWind Offshore Wind Farm as detailed in Volume 1 chapter 4: Project Description, and section 6.2 of the NRA, 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 and presented in Volume 1, Chapter 33, Cumulative Effects Assessment. These developments are summarised in Section 21 of the NRA.

The main commercial routes and those with potential for deviations have also been identified. 35 routes are highlighted and presented in Table 11.1 of the NRA. Expected cumulative deviations are also represented, with 22 routes being identified and presented in figure 14-3. 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. 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 MarramWind will be utilising floating structures in the final design of the wind farm. The MCA agree that wet storage options for these structures, especially around fully constructed floating WTGs, as mentioned in section 6.4 of the NRA, are yet to be fully explored. We would encourage the applicant when discussing any potential options to consult other relevant maritime stakeholders including the MCA and NLB.

Regarding the storing of components on the seabed within the array area as mentioned in section 4.6.3 and 4.6.5 of Chapter 4, Project Description, as the charted depths range from approximately 85m-135m, it is not expected that any storage would increase the risk to surface navigation. However, the MCA will need to be informed of materials to be stored within the array (and along the export cable corridor) and made aware of any that will exceed a 5% reduction in surrounding depth referenced to Chart Datum.

Mooring Arrangements

As MarramWind Offshore Wind Farm will include floating structures, Third Party Verification of the mooring arrangements for all floating devices will be required prior to construction to provide assurance against loss of station. Ideally this will be a condition of the marine licence. Guidance on regulatory expectations on mooring arrangements can be found on our website: <https://www.gov.uk/guidance/offshore-renewable-energy-installations-impact-on-shipping>.

Compliance with regulatory expectations on moorings for floating wind and marine devices (Health and Safety Executive (HSE) and MCA, 2017), has been listed as embedded mitigation measure M-044, which is welcomed by the MCA.

We note that loss of station has formed part of the scope of assessment, being considered in sections 15.9-15.11 of Chapter 15 and sections 18-20 of the NRA. As such, there is an expectation from the MCA that a system of continuous monitoring for each individual floating WTG be incorporated. We welcome the acknowledgment in paragraph 657 of the NRA that a system will be developed in line with Regulatory Expectations. The use of GPS in this system would be expected but inclusion of AIS

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on all floating structures, the overall particulars of this system and recovery arrangements in case of a loss of station will need further discussion with the MCA and NLB prior to construction.

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

The exact export cable route to the landfall and potential location of the RCP is reasonably developed as presented in Plate 3 of the non-technical summary and figure 7-2 and 7-3 of the NRA. It is noted in table 1.1 of Volume 3, Appendix 5.2: Commitments Register (as Mitigation M-054) 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.

As stated in paragraph 4.2.3.8 of Volume 1, Chapter 4, both High Voltage Alternating Current (HVAC) and High Voltage Direct Current (HVDC) transmission infrastructure is to be used. Therefore, a pre-construction compass deviation study is required. The MCA welcome the study presented in its entirety in Volume 1, Chapter 9: Electromagnetic Fields, and as a desk study as presented in section 15.6 of the NRA. MCA agree with the conclusions and are content that the risk to shipping and navigation remains low on this occasion.

Safety Zones

The requirement and use of safety zones as detailed in the application, specifically as mitigation measure M-031 in table 1.1 of Volume 3, Appendix 5.2: Commitments Register, is noted. 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 22, Table 22.1 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. Vessel Management and Navigation Safety Plan (VMNSP);

- 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]

Vaughan Jackson
Offshore Renewables Project Lead
Marine Safety and PNT Services

Peter Lowson
Head of Operational Procedures
and Information Management.
**HM Coastguard Governance,
Procedures, Assurance and
International**

on all floating structures, the overall particulars of this system and recovery arrangements in case of a loss of station will need further discussion with the MCA and NLB prior to construction.

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- 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.

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- 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]

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Our Reference: DIO10058394

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12 March 2026

Dear Jennifer

ELECTRICITY ACT 1989

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

The Electricity (Applications for Consent) Regulations 1990

MARINE (SCOTLAND) ACT 2010

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

MARINE AND COASTAL ACCESS ACT 2009

The Marine Works (Environmental Impact Assessment) Regulations 2007

00011544, 00011545, 00011546 & 00011547 – MarramWind Ltd – MarramWind Offshore Wind Farm - 75 and 110 kilometres off the North-East coast of Scotland.

Thank you for consulting the Ministry of Defence (MOD) in relation to the above Section 36 application and Marine Licences through your communication dated 19 January 2026.

The Defence Infrastructure Organisation (DIO) Safeguarding Team represents the MOD as a consultee in UK planning and energy consenting systems to ensure that development does not compromise or degrade the operation of defence sites such as aerodromes, explosives storage sites, air weapon ranges, and technical sites or training resources such as the Military Low Flying System.

I write to advise the safeguarding position of the MOD in relation to the above applications to construct and operate the Marramwind Offshore Wind Farm.

This scheme will comprise of:-

- up to 225 wind turbine generators (WTGs), with a maximum height to blade tip of up to 350 metres above Mean Sea Level (MSL), located approximately 75-110km offshore of the Aberdeenshire coast, north of Peterhead;

- up to four Offshore Substation Platforms (OSPs) with a maximum height of 100 metres above Lowest Astronomical Tide (LAT);
- up to two Offshore Reactive Compensation Platforms (RCPs) with a maximum height of 100m above LAT;
- up to four Subsea Substations;
- interconnector cables and up to five offshore export cables connecting the OSPs to the landfall on the Aberdeenshire coast between Scotstown and Lunderton; and
- onshore export cables to up to three onshore substations.

The principal concerns of the MOD with respect to this proposed wind farm relate to the impact of the development on the operation and capability of air defence radar systems and the potential to create a physical obstruction to air traffic movements.

At this time the MOD must **object** to the proposed development on the basis that the scheme would have a significant and detrimental impact on the effective operation and capability of air defence radar deployed at Remote Radar Head (RRH) Buchan.

Air Defence (AD) radar

The proposed WTGs would be located approximately 95.6km from, detectable by, and will cause unacceptable interference to the AD radar deployed at RRH Buchan.

WTGs have been shown to have detrimental effects on the operation of radar. These include the desensitisation of radar in the vicinity of the WTGs, and the creation of “false” aircraft returns. The probability of the radar detecting aircraft flying over or in the vicinity of the WTGs would be reduced, hence WTG proliferation within a specific locality can result in unacceptable degradation of the radar’s operational integrity. This would reduce the RAF’s ability to detect and deter aircraft in United Kingdom sovereign airspace, thereby preventing it from effectively performing its primary function of Air Defence of the United Kingdom.

Our assessments have determined that, when operational, the proposed wind farm will cause unacceptable and unmanageable interference to the effective operation of an air defence radar deployed at RRH Buchan.

The need to mitigate the impacts of the proposed development upon the effective operation of RRH Buchan has been recognised by the applicant and is set out in Volume 1, Chapter 31, Civil and Military Aviation of the Environmental Impact Assessment Report (EIAR) Document code MAR-GEN-ENV-REP-WSP-000036 dated 8 December 2025. The applicant has not proposed a suitable mitigation but has stated at paragraph 31.10.4.18 their commitment to continued consultation with the MOD aimed at delivering a suitable mitigation solution with regard to RRH Buchan AD. The MOD welcomes this commitment.

Therefore, on the basis of the information provided, and until a suitable mitigation scheme has been submitted, assessed, and accepted, the MOD must **object** to this proposal due to the impact it will have on the AD radar deployed at RRH Buchan.

Physical Obstruction

In this case the development falls within Low Flying Area 14 (LFA 14). Within this area fixed wing aircraft may operate as low as 250 feet or 76.2 metres above surface level to conduct low level flight training. The addition of turbines and other structures in this location would introduce a physical obstruction to low flying aircraft operating in the area.

In the event that the applicant is able to overcome the objections listed above regarding air defence radar the MOD would require that conditions are added to any consent issued requiring the submission, approval and implementation of an aviation lighting scheme, and that sufficient data is submitted to ensure that

structures can be accurately charted to allow deconfliction. The Applicant has acknowledged the MOD requirement for MOD accredited aviation safety lighting and the need to submit sufficient data to enable charting of the structures at Table 31.7 in Volume 1, Chapter 31, Civil and Military Aviation and in Volume 3, Appendix 5.2, Commitments Register. However, commitment M-101 states an incorrect height for those temporary obstacles which need to be identified to military aviation crews; the height criteria is 50m or more not 91.4m or more.

As this development includes structures other than wind turbine generators that exceed a height of 50m above LAT these structures would be subject to the lighting requirements set out in the Air Navigation Order 2016. In addition to any CAA requirements, the MOD will require the submission, approval, and implementation of an aviation safety lighting specification that details the installation of MOD accredited aviation safety lighting.

Offshore and Onshore Transmission Assets, including Landfall

The Transmission Assets will make landfall between Scotstown and Lunderton, north of Peterhead on the Aberdeenshire coast. The onshore landfall and onshore Transmission Assets elements of the development do pass through the statutory technical safeguarded zone for RAF Buchan. Assessments completed by the MOD have identified that there are no safeguarding concerns with the onshore landfall and onshore Transmission Assets elements of the proposed development.

Summary

For the avoidance of any doubt, MOD must **object** to the proposal on the grounds of the unacceptable impact that the development would have on air defence radar systems deployed at RRH Buchan.

I trust this is clear however should you have any questions please do not hesitate to contact me.

Yours sincerely

[Redacted]

Wendy Talbot
Assistant Safeguarding Manager

NatureScot

Marine Directorate
Scottish Government
5 Atlantic Quay
Glasgow
G2 8LU

Sent by email only

18 March 2026

Our ref: CNS REN OSWF - MarramWind

Dear Toni-Marie,

MARRAMWIND OFFSHORE WIND FARM

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 MARRAMWIND OFFSHORE WIND FARM

Thank you for consulting NatureScot on the Section 36 and Marine Licence Applications submitted by MarramWind Offshore Wind Farm (the Applicant) for the proposed MarramWind Offshore Wind Farm. These are accompanied by an Environmental Impact Assessment Report (EIA Report), Nature Conservation Marine Projected Area (NCMPA) Assessment, Report to Inform the Appropriate Assessment (RIAA) and a Derogation Case – submitted on a without prejudice basis.

Our advice in this letter is in relation to the Offshore Array Area (OAA), the Offshore Export Cable Corridor (ECC), Offshore Substation Platforms (OSPs) and landfall (up to MHWS only). Onshore components will be subject to separate terrestrial planning applications.

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) (noting that consultation on the draft updated SMP-OWE closed on 22 August 2025) and the Offshore Wind Policy Statement – 40 GW by 2040. We also acknowledge the Energy Act 2023 will provide for the reform of the consideration and delivery of strategic compensation, where required. We anticipate the guidance on the changes to be published later this year. 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 considering a new policy direction of nature positive requirements for marine industries, including Offshore Wind. We welcome that the applicant has given positive enhance some initial consideration, with the submission of a Nature Positive Plan on what might be possible in terms of biodiversity enhancement that would also align with the renewable energy production aims and objectives of this proposal.

The Proposed Development

The Applicant proposes to develop a floating offshore wind farm as part of the ScotWind Leasing Round in the NE7 Plan Option Area.

The Proposed Development is located approximately 75km offshore of the Aberdeenshire coast in north-east Scotland, and includes an Array Area of 684km², Export Cable Corridor (ECC) and up to 4 Offshore Substations. The proposed ECC is 575km² in length and will make landfall at either one or a combination of 3 potential locations: Lunderton; Lunderton North and Lunderton South, Aberdeenshire. The worst-case scenario is the requirement for 3 distinct landfalls.

The Applicant proposes splitting MarramWind into 3 separate phases (phases 1, 2 and 3), totalling an installed capacity of up to 3 Gigawatt (GW), with each phase anticipated to be operational for up to 35 years.

The Applicant has taken a Project Design Envelope (PDE) approach, allowing for the incorporation of potential emerging technology and engineering requirements. The PDE comprises:

- A maximum of 225 Wind Turbine Generators (WTGs) with a maximum turbine power output of 14MW, or 126 WTGs with a maximum turbine power output of 25MW. For 14MW WTGs, the maximum rotor diameter is 236m and a minimum rotor clearance above MHWS of 22m. For 25MW WTGs, the rotor diameter will be a maximum of 326m.
- Three floating foundation design options are under consideration: Semi-submersible, barge floating unit or a Tension-Leg platform (TLP).
- Up to eight mooring lines per floating structure, with catenary moorings, semi-taught moorings, taut-line moorings and vertical tension moorings under consideration including connectors.
- Up to eight anchors per floating structure. Anchor design options include drag embedment anchors, driven pile anchors and suction anchors.
- Up to four Offshore substations on fixed foundations, with either suction caisson or pile driven jacket foundations considered.
- Scour protection for anchoring systems and OSPs for suction or driven piles.

- Up to 5 offshore export cables, each up to 140km in length (totalling 700km) and trench width of 30m.
- Up to 2 Reactive Compensation Platforms (RCPs) located within the ECC, separated approximately by a maximum of 150m.
- A network of inter-array cables, up to 680km in length to connect the WTGs to OSPs. Dynamic “lazy S shape” cabling will be supported by the WTG floating foundation and tethered to the seabed at point of contact and will require secondary protection (rock placement, concrete mattresses and bags).
- Horizontal Directional Drilling (HDD) is anticipated to be the method of installation at landfall, but other trenchless techniques are being considered.

The construction for Phase 1, Phase 2 and Phase 3, including pre-construction surveys and site preparation works, is expected to take approximately 12 years, subject to finalising grid connections. Works are planned to commence in 2030.

The operational phase is expected to be 35 years (for each phase); this will include an Operation and Maintenance strategy, which may involve the replacement of WTGs.

Decommissioning is briefly addressed in Section 4.12 of the Project Description. We advise that that development of a Decommissioning Plan/Programme post-consent should be informed by current requirements and predicted on full removal of all infrastructure in line with current policy¹.

This is a typical, but broad PDE making our assessment of impacts to some environmental receptors difficult due to the wide range of factors and the identification of a realistic worst case scenario at this stage.

Storage and assembly of turbines (wet storage) and construction activities

It is noted in Section 4.6.4.7 of the Project Description (EIA Chapter 4) that an assessment of wet storage has not been included within the scope of the EIA Report, and the Applicant is not applying for consent of wet storage of WTGs as part of this Application. The Applicant has outlined that consents relating to wet storage will be covered by additional relevant consents.

Several potential ports are listed for differing construction activities. However, final port selection will be dependent on development consent, supply chain and chosen technology.

Assessment approach

The Applicant has largely followed standard EIA and HRA processes, with exceptions that we describe throughout this advice. The standard significant matrix approach is presented within the EIA Methodology, set out in Plate 5.3, Chapter 5: Approach to the EIA. We note that figures have been included separately to the main chapters and appendices. From our perspective embedding these within the main chapters would have been more convenient and efficient than having to open each figure individually. In the consideration of streamlining, we note that there was duplication between some of the main chapters and appendices.

¹ <https://www.gov.scot/publications/offshore-renewable-energy-decommissioning-guidance-scottish-waters/>

NatureScot advice summary

We provide a short summary of our advice under relevant subheadings below. Within our detailed advice we request further consideration and clarifications regarding several issues across various receptor topics (see Appendices A to G).

Offshore and intertidal ornithology – EIA

We agree with the Applicant's conclusion of **No Significant Effect** for project alone impacts for all species, with the following exceptions:

- we are **unable to conclude No Significant Effect for guillemot**. However, we do not require further information for guillemot as cumulative impacts are significant, and the HRA conclusions mean that all impacts will require compensation; and
- we have been **unable to make a conclusion for razorbill** as insufficient information has been provided to carry out a complete assessment. However, we do not require further information for razorbill as cumulative impacts are significant, and the HRA conclusions mean that all impacts will require compensation.

We conclude that cumulative impacts from this proposal with other offshore wind farms are **Significant in EIA** terms, for the following:

- Guillemot through *displacement*
- Razorbill through *displacement*
- Puffin through *displacement*
- Gannet through *collision* and *displacement*
- Kittiwake through *collision* and *displacement*
- Great black-backed gull through *collision*

Notably for cumulative impacts on great black-backed gull we have not concluded adverse effect on site integrity (AEoSI) for any designated sites for this species. Therefore, the full mitigation hierarchy should be considered where a significant adverse effect is identified. The Applicant may also wish to consider whether any proposed compensation measures for other species may also benefit great black-backed gull.

Offshore and intertidal ornithology – RIAA

For the project alone, we agree with the Applicants conclusion of no Adverse Effect on Site Integrity (AEoSI) for all sites not taken through to Population Viability Analysis (PVA). However, **we have concluded AEoSI** for the following sites where PVA has been undertaken:

- Guillemot at Buchan Ness to Collieston Coast Special Protection Area (SPA)
- Guillemot at Copinsay SPA
- Guillemot at Troup, Pennan and Lion's Heads SPA

For the following qualifying species and sites, we have concluded **AEoSI in-combination** with other offshore wind farm projects (excluding consented projects with a commitment to compensation):

- Guillemot at Buchan Ness to Collieston Coast SPA
- Guillemot at Copinsay SPA
- Guillemot at Troup, Pennan and Lion's Heads SPA
- Kittiwake at East Caithness Cliffs SPA

- Kittiwake at Fowlsheugh SPA
- Kittiwake at North Caithness Cliffs SPA
- Kittiwake at Troup, Pennan and Lion's Heads SPA
- Kittiwake at West Westray SPA
- Razorbill at East Caithness Cliffs SPA
- Gannet at Forth Islands SPA
- Puffin at North Caithness Cliffs SPA

For the following qualifying species and sites, we were **unable to conclude No AEoSI in-combination** with offshore wind farm projects (excluding consented projects with a commitment to compensation):

- Kittiwake at Buchan Ness to Collieston Coast SPA
- Kittiwake at Forth Islands SPA
- Kittiwake at St Abb's Head SPA
- Guillemot at Calf of Eday SPA
- Puffin at Forth Islands SPA
- Gannet at Hermaness, Saxa Vord and Valla Field SPA
- Razorbill at Troup
- Razorbill at Fair Isle SPA

We were unable to assess impacts to great black-backed gull due to the Applicant's approach to apportioning. **Impacts to great black-backed gull should be reassessed**, and Population Viability Assessments (PVA)s will be required for sites reaching the 0.02% threshold for change in survival. We provide more information on this in Sections A.4.8.1 and A.7.9.

Further advice with respect to Ornithological interests is provided in **Appendix A**.

We advise a derogation case is required. Please see **Appendix G** for our advice on the compensation measures proposed as part of a without prejudice derogation case by the Applicant.

Marine Mammals – EIA and RIAA

The EIA assessment for marine mammals concludes no significant impacts alone or cumulatively. However, we raise issues with magnitude and sensitivity scoring in our advice below, and as such we disagree with the outcome of the assessment. **Instead, we conclude significant impacts for disturbance from piling, both for the proposal alone and cumulatively for harbour porpoise, minke whale, white-beaked dolphin, bottlenose dolphin Coastal East Scotland (CES) and Risso's dolphin; and significant impacts cumulatively for bottlenose dolphin Greater North Sea (GNS).**

As such, should Scottish Ministers grant consent, we advise that:

- The Applicant must consider the implications of underwater noise from piling further, through the development of the Piling Strategy and Marine Mammal Mitigation Protocol (MMMP) post-consent, for all species considered in the EIA Report. We do not consider that the worst-case scenario is a realistic assessment of what will be built out if consented, and therefore the assessment of noise is likely to be over precautionary at this stage.
- Similarly, the Applicant must consider the impacts from auditory injury and disturbance from UXO clearance events further in the MMMP post-consent and that further mitigation measures are defined and secured. If large UXOs are identified, we recommend further

consultation with ourselves and Marine Directorate to agree and finalise any mitigation, which may include seasonal restrictions.

- A reassessment of the impacts based on a final layout and design specification, if consented and prior to construction.
- A monitoring proposal may be required to validate the final design and layout specifications predictions, to better understand the likelihood of impacts for disturbance from piling and other impacts will be required, particularly as floating wind developments are a novel technology.

For the Southern Trench NCMPA, we advise that:

- A cumulative assessment for disturbance from underwater noise generating activities is carried out for the Southern Trench NCMPA as this has not been adequately assessed.
- Due to potential cumulative auditory injury from piling to minke whale and auditory injury from UXO clearance, these activities may hinder the achievement of the site Conservation Objectives for minke whale.
- To reduce uncertainty around these impacts the design parameters could be refined further, in order to inform and optimise the Piling Strategy. For instance, this could include piling outside of peak minke whale season for certain locations within and in close proximity to the NCMPA.
- Based on the worst-case scenario auditory injury impact ranges outlined within Table 5.7, seasonal restrictions may need to be implemented in relation to UXO clearance within the Southern Trench NCMPA.
- The Applicant contributes to the strategic minke whale monitoring partnership study focusing on broadband acoustics that is already proposed in the Southern Trench NCMPA.

Furthermore, there are various aspects of the assessment where we request clarification and/or additional information, including:

- Confirmation that the driven pile anchor N location is considered to have the largest potential for disturbance to the bottlenose dolphin CES MU, considering it is the furthest piling location from that receptor.
- Clarification on how many days the RCP installation will take and the proposed location of the second RCP (if still part of the PDE) to ensure that the worst-case scenario and impact to the coastal population of bottlenose dolphin has been correctly defined.
- A cumulative assessment is carried out for the impacts C9 and D3 *disturbance from increased vessel presence and traffic during construction, operation and decommissioning phases*.
- What piling scenarios were used for the cumulative assessment.

Under HRA we are **unable to conclude no AEoSI** on the bottlenose dolphin of the Moray Firth SAC from behavioural disturbance from pile driving either alone or cumulatively. **We advise that the design parameters and/or modelling could be refined further, in order to reduce precaution in the project design and impacts to the bottlenose dolphin of the Moray Firth SAC.** For example, the dose-response curve capped at 140 dB could be used, which we have accepted for bottlenose dolphin in the recent Ayre Offshore Wind Farm application.

It may be that we require the Applicant to contribute to strategic post-consent monitoring of the Moray Firth SAC bottlenose dolphin populations as part of ongoing understanding of the species

and their distributional and behavioural responses to marine industries development activities, if consented and the final design parameter continues to predict an AEoSI to this SAC.

Fish and shellfish ecology – EIA

The EIA assessment for fish and shellfish ecology concludes no significant impacts alone or cumulatively. However, due to the OAA overlapping with recurrent grounds for spawning cod, and the ECC being within a key area for herring spawning, **we advise there are significant impacts on these species from predicted underwater noise and impacts to spawning habitats, and mitigation will be required following refinement of the project envelope. We advise Marine Directorate to secure detailed mitigation presented post-consent through the development of relevant post-consent plans, if consented.**

Mitigation of impacts to cod and herring requires avoiding impacts during spawning seasons:

- **piling and cable laying within the OAA during cod spawning should be avoided; and**
- **construction of the ECC should not take place during the herring spawning season and while eggs are on the seabed (egg development period).**

Regarding monitoring, should Scottish Ministers grant consent, we advise that:

- **A monitoring proposal to validate the EIA Report predictions and subsequent mitigation measures will be required.**
- **Monitoring of EMF either alone or in collaboration via strategic measures to contribute to the evidence gap in relation to EMF impacts and dynamic cables associated with a floating offshore wind farm.**

Benthic ecology – EIA

The EIA assessment for Benthic Ecology concludes **No Significant effects** both alone, and cumulatively, which we support. We agree with the screening out of burrowed mud and shelf deep features of the Southern Trench NCMPA and agree that the proposal will not result in a significant risk of hindering the achievement of the Conservation Objectives of the MPA for benthic features.

Marine and coastal processes – EIA

The EIA assessment for marine and coastal processes concludes no significant impacts, both alone and cumulatively. We broadly agree with these conclusions, **subject to the clarifications** detailed in **Appendix E**.

Regarding the moraines sub-feature of the Quaternary feature of the Southern Trench NCMPA, we broadly agree with the conclusion that the proposal will not result in a significant risk of hindering the achievement of the Conservation Objectives of the MPA. However, as detailed in **Appendix E**, **this is dependent on additional clarifications.**

Additionally, we advise that **advice should be sought from MD-SEDD on the cumulative effects of changes to the wave climate, with clarification on the level of cumulative assessment** required by Applicants in relation to Southern Trench NCMPA.

Blue carbon – EIA

We support the assessment conclusion for Blue Carbon of **no significant impacts.**

Seascape, Landscape, Visual Impact Assessment (SLVIA) – EIA

At EIA Scoping stage we advised that elements within the OAA could be scoped out of assessment. We support the conclusion that these elements will have **no significant effects** on seascape, landscape, visual receptors.

At EIA Scoping stage we advised that elements outwith the OAA (i.e. 2x RCPs) may benefit from collaborative work to understand likely impacts. We welcome the assessment presented and support the conclusion that these elements will have **no significant effects** on seascape, landscape, and visual receptors.

Derogation and compensation measures under HRA

We note the Applicants preference to use a future Marine Recovery Fund (MRF) and in-line with interim guidance² we welcome that the Applicant has also initiated consideration of developer led compensation measures. Until the Scottish MRF and Scotland's Portfolio of Compensatory Measures are operational, we request ongoing involvement to advise on the ecological effectiveness of any project specific compensation measure(s).

We will welcome further consultation about potential compensation delivery once sites have been short-listed and site-specific details are available.

Further advice is provided in **Appendix G**.

Nature Positive Plan

The Applicant has submitted a Nature Positive Plan (NPP), which briefly outlines the framework through which biodiversity enhancement and nature-based solutions will be developed and monitored. We welcome the inclusion of this plan, particularly in light of potential new nature positive requirements under consideration by Scottish Government.

Various onshore enhancement opportunities are described, and we recommend that this is included within the onshore planning application for consideration at that stage.

In terms of offshore enhancement, we note that a collaborative piece of work was undertaken with the Scottish Association for Marine Sciences (SAMS) and that this was further informed by the Collaboration for Environmental Mitigation and Nature Inclusive Design (CEMNID) final report³, which we supported. High-level concepts are presented, including ecofriendly cable protection mattresses / scour protection, habitat enhancement pipes, and offsite nature enhancement, amongst other suggestions.

Our preference would be for infrastructure design-based measures where feasible, e.g. ecofriendly cable protection mattresses, scour protection, etc. 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.

The NPP identifies the need for monitoring of any enhancement measures through a dedicated Implementation and Monitoring Plan and we welcome this commitment. Moreover, we

² <https://www.gov.scot/publications/scottish-marine-recovery-fund-guidance/pages/overview/>

³ <https://www.offshorewindscotland.org.uk/the-scottish-offshore-wind-industry/sowec/sowec-publications/cemnid-final-report/>

recommend that a dedicated Biosecurity Plan is included, either within the Implementation and Monitoring Plan or as a standalone document. **We request further engagement on the NPP, potential offshore enhancement measures, and monitoring as this develops.**

We hope this advice is helpful. Please contact Harriet Sperrin ([Redacted] or Jenna Turner ([jenna](#).^[Redacted]). In the first instance for any further advice, copying in our marine energy mailbox – marineenergy@nature.scot.

Yours sincerely,

Erica Knott

Head of Marine Energy – Sustainable Coasts and Seas.

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NATURESCOT ADVICE ON MARRAMWIND OFFSHORE WIND FARM

Appendix A Marine and intertidal ornithology

Marine and intertidal ornithology is considered in Chapters 12 and 33 of the EIA, and the following supporting appendices:

- EIA - Appendix 12.1: Offshore and Intertidal Ornithology Baseline Report
- EIA - Appendix 12.2: Displacement Modelling
- EIA - Appendix 12.3: Offshore Ornithology Collision Risk Modelling
- EIA - Appendix 12.4: EIA PVA Report
- EIA – Appendix 12.5: MRSea Report
- EIA- Appendix 33.4: Offshore and intertidal Ornithology CEA
- EIA – Derogation Case
- EIA - Appendix 12.6: Offshore Ornithology Migratory Collision Risk Modelling
- Report to Inform Appropriate Assessment (RIAA) MarramWind Offshore Wind Farm – Ornithology sections
- RIAA Appendix C Offshore Ornithology HRA Apportionment Report
- RIAA Appendix D HRA PVA Report
- RIAA Appendix E Offshore and Intertidal Ornithology In-combination Assessment

A.1 EIA summary

A.1.1 *Proposal alone*

We agree with the Applicant's conclusion of **No Significant Effect** for the project alone impacts for all species, with the following exceptions:

- we are **unable to conclude No Significant Effect for guillemot**. However, we do not require further information for guillemot as cumulative impacts are significant, and the HRA conclusions mean that impacts will require compensation; and
- we have been **unable to make a conclusion for razorbill** as insufficient information has been provided to carry out a complete assessment. However, we do not require further information for razorbill as cumulative impacts are significant, and the HRA conclusions mean that impacts will require compensation.

A.1.2 *Cumulative assessment*

For cumulative impacts the Applicant's assessment concludes a cumulative **Likely Significant Effect** solely for guillemot. However, we conclude that cumulative impacts from this proposal with other offshore wind farms are Significant in EIA terms for the following:

- Guillemot
- Razorbill
- Puffin
- Gannet
- Kittiwake
- Great black-backed gull.

In line with established EIA practices, the full mitigation hierarchy should be considered where a significant adverse effect is identified. Without prejudging the outcome of the Appropriate Assessment, **we anticipate, should consent be granted, that compensation measures would be required for guillemot, kittiwake, razorbill, puffin and gannet.** We consider that agreed compensation measures would be sufficient to address impacts predicted under EIA for these species.

We have concluded that the cumulative impacts to great black-backed gulls are likely to be significant in EIA terms, however, we have not concluded adverse effect on site integrity (AEoSI) for any designated sites for this species. **Therefore, the full mitigation hierarchy should be considered where a significant adverse effect is identified.** The Applicant may wish to consider whether any proposed compensation measures for other species may also benefit great black-backed gull.

A.1.3 Content and quality of the application

Overall, the application is of good quality, and assessments are easy to follow with clear results presented. Sufficient detail has been provided to allow us to check the Applicant's work for most aspects of the assessment.

The methodology and approach to assessments is largely appropriate and broadly aligns with NatureScot guidance. There have been some deviations to the standard approach, particularly surrounding the calculation of the regional population estimates and the adult proportion. Where the Applicant's assessment methodology deviates from the standard we have assessed the impact of this deviation on the results.

A.2 RIAA summary

A.2.1 Proposal alone assessment of AEoSI

For the project alone, we agree with the Applicants conclusion of no Adverse Effect on Site Integrity (AEoSI) for all sites not taken through to Population Viability Analysis (PVA). However, **we have concluded AEoSI** for the following sites where PVA has been undertaken:

- Guillemot at Buchan Ness to Collieston Coast SPA
- Guillemot at Copinsay SPA
- Guillemot at Troup, Pennan and Lion's Heads SPA

A.2.2 In-combination assessment of AEoSI

For the qualifying species and sites below, **we have concluded AEoSI in-combination** with other offshore wind farm projects under the second in-combination scenario (All projects, excluding consented projects with a commitment to compensation):

- Guillemot at Buchan Ness to Collieston Coast SPA
- Guillemot at Copinsay SPA
- Guillemot at Troup, Pennan and Lion's Heads SPA
- Kittiwake at East Caithness Cliffs SPA
- Kittiwake at Fowlsheugh SPA
- Kittiwake at North Caithness Cliffs SPA

- Kittiwake at Troup, Pennan and Lion's Heads SPA
- Kittiwake at West Westray SPA
- Razorbill at East Caithness Cliffs SPA
- Gannet at Forth Islands SPA
- Puffin at North Caithness Cliffs SPA

For the qualifying species and sites listed below, we were **unable to conclude No AEoSI in-combination** with other offshore wind farm projects, excluding projects with a commitment to compensation:

- Kittiwake at Buchan Ness to Collieston Coast SPA
- Kittiwake at Forth Islands SPA
- Kittiwake at St Abb's Head SPA
- Guillemot at Calf of Eday SPA
- Puffin at Forth Islands SPA
- Gannet at Hermaness, Saxa Vord and Valla Field SPA
- Razorbill at Troup, Pennan and Lion's Heads SPA
- Razorbill at Fair Isle SPA

As such, **we advise a derogation case is required**. Please see Appendix G for our advice on the compensation measures proposed as part of a without prejudice derogation case by the Applicant.

We were unable to assess impacts to Great Black-Backed Gull due to the Applicant's approach to apportioning. **Impacts to great black-backed gull should be reassessed**, and that PVAs are run for sites reaching the 0.02% threshold for change in survival. We provide more information on this in Section A.7.9.

A.3 Baseline characterisation

Overall, we are content with the baseline report, and the data collection and modelling methods used to calculate abundance and density estimates follow our guidance.

However, we also highlight areas below which do not align with our guidance.

The Applicant was unable to fly DAS in multiple months throughout the two-year survey period, meaning that the Applicant had to fly multiple flights in the same month or gap fill using data from other months. Whilst we appreciate that DAS cannot always be carried out as planned, the approach taken is unusual, and does not provide a full understanding of how species are using the site. However, we were made aware of this approach at a late stage prior to submission and on this occasion, we accept the data as presented.

The Applicant also makes use of the Dunn *et al.* (2024⁴) paper which provides availability bias rates for guillemot, razorbill and puffin in the non-breeding season. The use of the paper was agreed with NatureScot prior to the application submission. The Applicant uses the July figure in the Dunn *et al.* paper even though we class this as the breeding season and provide a source for this period, Thaxter

⁴ Dunn, R.E., Duckworth, J., O'Brien, S., Furness, R.W., Buckingham, L., Daunt, F., Bogdanova, M. and Green, J.A., (2024). *Temporal and spatial variability in availability bias has consequences for marine bird abundance estimates during the non-breeding season*.

et al. (2010)⁵. The Applicant has also filled gaps for razorbill and puffin for several months where Dunn *et al* do not provide figures. For razorbill the Applicant has used the January figure from Dunn *et al*, for February and March. For puffin, they use the November rate for December, January, February and March. It is not clear if these points were raised with NatureScot prior to the assessment, however, these choices are precautionary and we accept their suitability.

Within the report in paragraph 2.2.3.6 the applicant states that:

'Species recorded in 'important' numbers (>1% of an SPA, Ramsar or SSSI population that may have connectivity with the proposed landfall sites and associated buffers, or >1% of the UK or international population)'

It is not explained why a 1% threshold was used to determine importance. This is not an approach that NatureScot would normally advise.

Additionally, some species are seen in large numbers in the intertidal surveys but do not meet the 1% of relevant population threshold used by the Applicant, but may still be significant numbers of birds – e.g. 700 common scoter.

As highlighted in our EIA advice the seasonal timing of ECC and landfall construction activities has not yet been determined. We recommend that these activities, and preparatory activities such as geotechnical surveys, should consider how the seasonal timing may affect impacts to the species identified as using the landfall site(s) in important numbers.

A.3.1 Collision Risk Modelling (CRM)

The Applicant lays out the approach taken to the offshore ornithology collision risk modelling in Volume 3, Appendix 12.3. The species taken forward in the assessment are as follows:

- Kittiwake;
- Great black-backed gull;
- Herring gull;
- Lesser black-backed gull;
- Great skua; and
- Gannet.

The Applicant's approach to undertaking the collision risk modelling follows our guidance (Guidance Note 7, NatureScot, 2025⁶). The sCRM tool has been used and both stochastic and deterministic analysis has been undertaken, with both outputs presented. We support the method used and the outputs taken forward in the assessment.

A.3.2 Migratory CRM (mCRM)

The Applicant undertook collision risk modelling for migratory species using the Marine Directorate mCRM tool, which we support. All species within the model were included apart from gannet, which is appropriate. The list taken through to assessment was further refined, as 20

⁵ Thaxter, C. B., Wanless, S., Daunt, F., Harris, M. P., Benvenuti, S., Watanuki, Y., Grémillet, D. and Hamer, K. C., (2010). *Influence of wing loading on the trade-off between pursuit-diving and flight in common guillemots and razorbills.*

⁶ <https://www.nature.scot/doc/guidance-note-7-guidance-support-offshore-wind-applications-marine-ornithology-advice-assessing>

species were shown to not pass through the development area and consequently were scoped out. The approach taken is appropriate.

A.4 Assessment approach

A.4.1 Ornithological receptors for EIA

Ornithological receptors were identified through Digital Aerial Surveys (DAS) of the Array area plus 4km buffer, and Vantage Point (VP) surveys of the two potential landfall sites. Migratory birds that may have a migratory flight path and/or breeding/wintering grounds in the vicinity of the development have also been considered. We are content with the Ornithological Receptors which have been scoped into the assessment.

A.4.2 Displacement modelling – Appendix 12.2

Kittiwake, guillemot, razorbill, puffin and gannet were included in the displacement assessment. Displacement was assessed using the matrix approach, as it was agreed with NatureScot that SeabORD should not be used due to ongoing issues with the currently available version. A 2km buffer was used for the displacement assessment, matching NatureScot guidance.

The Applicant used both the MRSea and design-based abundance estimates and reviewed the results. MRSea based estimates were used where a complete season of results was available, while design-based estimates were selected where a full season of MRSea-based estimates were not available or deemed suitable. MRSea based abundance estimates were deemed to be unsuitable for guillemot due to the MRSea based estimates being consistently and significantly lower than the design-based estimates. This is an appropriate, and precautionary approach. For species with unusually high counts in a single survey, e.g. those attracted to the presence of the fishing vessel in August 2021, the MRSea mean peak abundance estimates were selected.

For gannet the data from August 2021 was excluded due to a large number of gannets being attracted to a fishing vessel within the Array Area. The Applicant has provided clear evidence of this attraction, including density maps with the position of the fishing vessel indicated, and an image of the fishing vessel clearly showing a large number of gannets surrounding the vessel. As the fishing vessel was present within the array area, it is unlikely that this situation would arise post-construction if consented, due to likely differences in fishing activity, therefore we are content for the data from August 2021 to be removed from the dataset for gannet.

The displacement and mortality rates used for the guidance approach match those recommended in Table 1 of Guidance Note 8⁷.

We are content with the approach used for the displacement modelling.

A.4.3 Regional population

There are several issues in the calculation of the regional population estimates used in Chapter 12, Section 12.6.2.9 of the EIA. In summary:

⁷ <https://www.nature.scot/doc/guidance-note-8-guidance-support-offshore-wind-applications-marine-ornithology-advice-assessing>

- Colony count data that was not contemporaneous to the DAS was used in some cases, including count data pre-dating Seabirds Count.
- Age ratios were calculated in a non-standard manner, using the non-breeding season specific adult and immature estimates from Furness (2015), as described above.
- The number of immatures was estimated by incorrectly multiplying the breeding adult counts by immature proportions, instead of by “number of immatures per adult”.

A.4.4 Breeding season

A.4.4.1 Collation of colony counts

Breeding season regional populations were calculated for the Project based on the total population of breeding adults from colonies within the mean maximum foraging range (MMFR) plus one standard deviation (SD). The following exemptions were applied.

- Guillemot, razorbill and gannet utilised site-specific foraging ranges where applicable, as per Guidance Note 3
- Sites outwith MMFR +1SD but known to have tracking data overlapping the Project site were included.

The Applicant has not clearly stated which sites that were outwith MMFR+1SD were included due to tracking data overlapping the Project site. The list of SPAs which were included in the colony count collation appears to be suitable.

Seabirds Count (Burnell *et al.* (2023)⁸) was the primary source for colony count data. Colony counts for sites which were not included in Seabirds Count were taken from the Seabird Monitoring Programme database (SMP, 2025).

We note that the following advice was provided to the Applicant on the 24th of June 2024 within a HRA meeting: *“If a population count for a specific colony in the Seabirds Count (Burnell et al. 2023) dataset is not contemporaneous with the DAS survey period for an offshore wind application, we advise that a relevant count should be obtained from the Seabird Monitoring Programme (SMP) database (SMP, 2025), if available. Counts should be derived from the SMP database with caution, with particular care taken to check the counting unit, method, and to ensure all relevant sub-sites within a master site are included in the total population count.”*

We note that in several cases count data pre-dating Seabirds Count was used – this count data is likely to be inaccurate and considering the declines in colony counts seen across most Scottish seabirds, would be expected to be overestimates. It is our preference that count data pre-dating Seabirds Count should not be used. However, in this case the potential overestimates arising from the use of count data pre-dating Seabirds Count is not significant when compared to the total regional population estimate (see table below).

⁸ Burnell, D., Perkins, A.J., Newton, S.F., Bolton, M., Tierney, T.D. and Dunn, T.D., (2023). *Seabirds Count, A census of breeding seabirds in Britain and Ireland (2015–2021)*. Barcelona: Lynx Nature Books.

Table A-1 Master site count sections for which the Applicant used count data pre-dating Seabirds Counts.

Species	Master site	Section	Count years	Adult individuals	Species total	Notes
Guillemot	Pentland Firth Islands	Muckle Skerry	2002	587	587	A count from 2024 is available in the SMP database with 12 IND (16 adults)
Razorbill	South Ronaldsay	Stews - Windwick	2000	185	424	
	Pentland Firth Islands	Muckle Skerry	2002	239		
Puffin	Yell Sound Islands	Bigga	2000	6	712	
		Little Roe	2000	64		
		Samphrey	2000	50		
		Fish Holm	2000	200		
	Out Skerries	Filla	2001	64		
		Bound Skerry	2001	120		
		Bruray	2001	208		
Kittiwake	Skeld, Westerwick and Culswick	Skeld, Westerwick and Culswick	2006	46	1070	Section does not appear in Seabirds Count; name is same as the master site - this section may be defunct
	West Burra - Shetland	Kettleness	2014	72		
		West Burra	2014	130		
	Westray	Westray 10	2002	758		
	Whalsay	Meo Ness to the Haa	2001	64		

Additionally, in the RIAA, the Applicant has presented a “Latest Count” where more contemporaneous counts from 2015 to 2025 have been collated from the SMP database. These colony counts have been taken through to apportionment and used in the PVA assessment. It is unclear why different colony counts have been used between the EIA and HRA. The more contemporaneous “latest count” would have been our preference for the calculation in the EIA’s breeding season regional population.

We have based our conclusions for the EIA on the assessment that has been provided. We have considered whether the use of the more contemporaneous “latest count” would have affected our conclusions. We do not believe our conclusions would be significantly affected.

We also note the following:

- Guillemot: Deerness 5 colony count – the 2018 colony count in the SMP database is 158 AOS. The Seabirds Count spreadsheet entry for the same colony count has 235 IND ($\text{IND} = \text{AOS} \times 1/0.67$), which would equate to 316 adult individuals ($\text{Adult individuals} = \text{IND} \times 2 \times 0.67$) (overall 1 AOS = 2 adult individuals). However, the Applicant’s colony count for Deerness 5 is 423 adult individuals. The Applicant appears to have multiplied the 158 AOS by 2, resulting in 316 adult individuals (which is correct), however, they have then multiplied by 1.34, resulting in 423 adult individuals. This overestimate is relatively small compared to the colony counts for other sites, and this site is not a designated site, therefore, this error does not affect our conclusions.
- Razorbill: a correction factor of 1.34, based on a k value of 0.67, has been applied to Razorbill IND counts to convert IND to adult breeding individuals ($\text{total breeding adults} = 2 \times 0.67 \times \text{IND}$). However, the correction factor for Razorbill recommended in Seabirds Count uses an updated k value of 0.75 ($\text{total breeding adults} = 1.49 \times \text{IND}$). We note that the Applicant was advised to use an overall correction factor of 1.34 for razorbill in the MD-LOT Scoping

Opinion on 12th May 2023. We are therefore content to accept this approach and note that the resulting difference in colony counts, and regional population size is relatively small.

A.4.4.2 Estimation of non-breeders

The total regional population within the breeding season was calculated as the sum of breeding adults from colonies within foraging range plus a non-breeding component based on the estimated number of immatures per breeding adult.

Exceptions:

1. Paragraph 12.6.2.12 - puffin – immature birds were excluded from the breeding season regional population based on the Applicant's proposal that based on expert judgement immature puffins remain on the wintering grounds year-round, outside of the project OAA.
2. Paragraph 12.6.2.14 - herring gull and great black-backed gull have no breeding colonies within MMFR +1SD of the project, and the breeding season regional population was derived from the total number of immatures from Appendix A of Furness (2015).

Comments on exception 1: No further information was provided to support the Applicant's proposal that immature puffins remain on the wintering grounds year-round. **We request clarification on the sources used to support this statement, for example, details of the meeting/workshop from which the expert judgement was derived.** As this approach will result in a smaller breeding season regional population, the results will be more precautionary than the NatureScot approach.

Comments on exception 2: This specific approach was not discussed with NatureScot. However, as no herring gull and great-black-backed gull breeding colonies were within foraging range of the site, and very low numbers of these species were seen in the DAS in the breeding season, we believe that the approach used in this case would not change our conclusions.

A.4.4.3 Sabbatical birds

Adult birds taking a sabbatical from breeding were not considered by the Applicant within the EIA, but impacts to sabbatical were removed in the RIAA. While NatureScot generally advises the use of sabbatical rates to estimate the number of sabbatical birds present within the regional population, the Applicant's approach will be more precautionary as the resulting regional populations will be smaller and therefore, we accept this approach on this occasion.

A.4.4.4 Age ratios (adult proportion)

The Applicant has not used the standard approach for calculating age ratios. The standard approaches that we expect to see are to either use stable age structure modelling to calculate age ratios (e.g., as per those presented in Furness (2015)), or to use DAS data to calculate age ratios for species where adults are distinguishable from immature birds (e.g. kittiwake and gannet).

However, the Applicant has calculated age ratios from Appendix A of Furness et. al (2015) - using the total numbers of UK North Sea adults and UK North Sea Immatures presented in the tables of Appendix A. These numbers have been calculated in Furness (2015) as follows:

- The number of breeding adults is calculated using the most recent count of pairs for each colony/area.
- The number of immatures for each colony/area is then calculated using the “number of immatures per adult” derived from stable age structure modelling.
- The proportion of adults and immatures from each colony remaining within the Biologically defined minimum population scales (BDMPS) region in each non-breeding season is then estimated using expert judgement, based on literature review. These proportions are then applied to the adult and immature numbers.
- The total numbers of adult and immature birds from the UK remaining within the BDMPS region in each season is then totalled.

The proportions of adults and immatures remaining in each BDMPS region in each non-breeding season are not applicable to the breeding season, as a proportion of each age class has been removed to reflect movements out of the BDMPS region in the non-breeding season. Furthermore, several species have multiple non-breeding seasons in Furness (2015), where the age ratios calculated by the Applicant’s approach would be different, but the Applicant has not described the reasoning behind selecting one non-breeding season over another. The age ratios calculated by the Applicant are therefore based on non-breeding season specific data and are therefore not applicable to the breeding season data.

We have compared the age ratios calculated by the Applicant to those calculated by Furness (2015). The Applicant’s adult proportions are higher in every case, which would result in a more precautionary approach, as a greater proportion of the mortalities will be apportioned to adults, and then subsequently to each SPA in the RIAA. The Applicant’s approach will also be more precautionary in the EIA, as a smaller number of immature birds will be estimated and added to the breeding season regional population, and the same total mortality estimates applied to a smaller population size will result in greater percentage point changes in survival.

We have based our conclusions upon the results of this assessment as the results are expected to be more precautionary than the standard approach, however, we do not recommend this approach as the biological relevance of non-breeding season age ratios to the breeding season is not clear.

The table below summarises the differences in age ratios using the values presented in Furness (2015) and via the Applicant’s method. For clarity, the data within the *Furness (2015)* column is what we expect to see, whilst data in the *Using Applicant’s approach* column purely demonstrates that the Applicant has calculated adult proportion from Furness in an odd way, and that the wrong values have been presented in Table 12.9 (when calculating the number of immatures per breeding adult from their adult proportion, it does not match the values presented in Table 12.9).

Table A-2 Comparison of the adult proportions calculated by Furness (2015) and the Applicant.

Species	Furness (2015)		Using Applicant's approach			Table 12.9 Immatures per breeding adult
	Adult proportion	Immatures per breeding adult	Adult proportion	BDMPS season (North Sea)	Immatures per breeding adult (calculated by NS)	
Kittiwake	53.19%	0.88	69.14%	Spring	0.45	0.31

Great skua	41.32%	1.42	67.87%	Spring	0.47	n/a
Guillemot	57.47%	0.74	60.65%	Non-breeding	0.65	0.39
Razorbill	57.14%	0.75	58.58%	Migration	0.71	0.41
Puffin	49.02%	1.04	94.07%	Non-breeding	0.06	0.06
Gannet	55.25%	0.81	68.36%	Spring	0.46	0.32

As the Applicant's adult proportions were higher in every case, the number of immatures estimated will be lower, resulting in a lower total population estimate, and therefore a more precautionary approach within the EIA.

Furthermore, in Table 12.9 of Chapter 12, the Applicant presents values for "Estimated immatures per breeding adult in population (Furness, 2015), which were used to calculate the number of immatures within the regional populations. However, we note that the values presented do not match the "immatures per breeding adult" values presented in Furness (2015), nor do they match the same metric as calculated from the Applicant's adult proportions. The values presented instead match the immature proportion of the population. The number of immatures within the populations therefore appear to have been calculated incorrectly.

The "immatures per breeding adult" values represent the number of immatures that are present in the population for each breeding adult. Notably, the number of immatures per breeding adult can exceed 1. For example, a hypothetical population could have 2 immature birds per 1 adult. The number of immatures can be calculated using this metric by simply multiplying the number of adults by the "immatures per breeding adult" value.

The immature proportion values represent the percentage or proportion of the population that are immatures. Notably, the immature proportion cannot exceed 1 (i.e. immatures cannot make up more than 100% of the population). For example, if a hypothetical population had 2 immature birds per 1 adult, then a third of the population would be adults (adult proportion of 0.33 or 33%). The total population size (and therefore the number of immatures) can be estimated by dividing the number of breeding adults by the adult proportion.

Table A-3 below presents values from Table 12.9 of Chapter 12, where the number of immatures were mistakenly calculated using the immature proportion as immature per breeding adult.

Table A-3 Comparison of the breeding season regional adult, immature and total populations calculated by the Applicant and by NatureScot. Values from Table 12.9, Chapter 12, where the number of immatures were erroneously calculated, are also presented.

Species	Estimated number of breeding adults		Estimated number of immatures			Estimated total breeding season regional population			
	Table 12.9	NS approach	Table 12.9	Using Applicant adult proportion	NS approach	Table 12.9	Using Applicant adult proportion	Applicant	NS approach
Kittiwake	216,500	215,430	66,812	96,633	189,578	283,312	313,133		405,008
Guillemot	135,903	135,316	53,478	88,174	100,134	189,381	224,077		235,450
Razorbill	21,846	21,422	9,049	15,447	16,067	30,895	37,293		37,489
Puffin	234,412	233,700	13,901	14,777	243,048	248,313	249,189		476,748
Gannet	307,130	307,130	97,176	142,153	248,775	404,306	449,283		555,905

A.4.5 Non-breeding season

Non-breeding season regional populations were derived from the largest non-breeding population size for the North Sea (or North Sea and English Channel, where appropriate) from Furness (2015).

Exceptions:

- Guillemot – the non-breeding season regional population is considered to be the same as the breeding season regional population – this matches NatureScot advice.
- Herring gull – no colonies within MMFR+1SD, therefore the non-breeding season regional population was derived from the total number of immatures for the North Sea and English Channel plus the total number of overseas adults for the North Sea and English Channel from Appendix A of Furness (2015).

We note that in Table 12.9 the non-breeding season regional population estimate for guillemot is stated to be 176,471 and does not match the breeding season regional population estimate of 189,381. We believe this to be an error in this table only, as in Tables 12.21 and 12.22 both season's regional population estimates are 189,381.

A.4.6 EIA Population Viability Analysis

In Appendix 12.4, the Applicant performed PVA modelling for species which met the 0.02 percentage point change in adult threshold requirement using the NE PVA tool (Natural England, 2025)⁹). The tool was run via the 'Shiny App' interface, which provides a user-friendly graphical interface for the underlying functions of the nepva R package (tool v2.0, code v4.18, interface v1.7).

We note that the applicant states that a 10 year "burn-in" period was included, except for species "with small population sizes", as the Applicant states within the PVA report for the HRA that small population sizes may cause errors during the burn-in period. The Applicant has not provided the details of which population sizes were considered small. The PVA logs provided show that "Years for burn-in" was set to 0 for all species. While burn-in may alternatively be implemented within the NEPVA tool by scheduling the impacts to start after the required number of years, the PVA logs provided have an impact start year of 2035 in all cases. It is therefore unclear how the burn-in period was implemented within the model, and for which species no burn-in period was used.

We request clarification on how the burn-in period was implemented within the models, and for which species no burn-in period was used.

The initial population size used for the PVA modelling was the largest annual BDMPS, except for herring gull, guillemot and puffin where specific regional populations were selected.

It should be noted that the BDMPS data was based on colony count data pre-dating 2015, and for many species is likely to be an overestimate. NatureScot's preferred approach to PVA modelling for the annual mortalities to include the breeding season mortalities, plus a portion of the non-breeding season mortalities apportioned to the breeding season population, and for the breeding season regional population to be used as the starting population size.

A.4.7 Marine Renewables Strategic Environmental Assessment (MRSea) Report

⁹ Natural England, (2025). *Seabird PVA Tool*. [online] Available at: https://github.com/naturalengland/Seabird_PVA_Tool/tree/master.

Appendix 12.5 details the MRSea modelling carried out by the Applicant to generate model-based abundance estimates for key seabird receptors. The modelling approach used was appropriate and we are content with the results.

A.4.8 HRA Apportionment Report

The approach to apportionment broadly fits NatureScot’s guidance. At-sea centre to centre distances were used in the apportionment calculation, and sites were not screened out based on whether these centre-to-centre distances exceeded foraging range – this is the correct approach.

Colony counts were derived as per the regional population estimates, please see our comments on this within the regional population section above. However, we note that in Appendices C3 and C4 the Applicant includes estimates of colony counts derived from more recent data. As this data is more contemporaneous to the DAS performed between 2021 and 2023, this would be our preferred dataset. However, detailed apportionment information is not presented for the “latest count” dataset and as such we were unable to fully check the count data. It appears that the “latest count” data was taken forward in the RIAA, but not the EIA, and it remains unclear why the Applicant has not provided detailed apportionment for the “latest count” dataset.

The age ratios used in the apportionment were calculated in a non-standard way, please see our discussion of this in the regional population section for our full comments. The Applicant’s approach resulted in higher adult proportions than typically expected being used, therefore a greater portion of the total breeding season mortalities would have been apportioned to adults, and then subsequently to each SPA in the RIAA. As a result, the Applicant’s approach is expected to be more precautionary than the standard approach.

There were some minor errors in the calculation of proportion of foraging range as sea, however, these were unlikely to significantly affect the results of the apportioning. Please see “minor errors” section below for our full comments.

We have checked a subset of the apportioning calculations. The breeding season apportioning has been carried out correctly for great skua, guillemot, razorbill, puffin and kittiwake. We have checked the non-breeding season apportioning for gannet, kittiwake, razorbill and puffin and found no errors.

We did find an error in the non-breeding season apportioning for great black-backed gull that significantly affects the results of the apportioning, please see the “Great black-backed gull non-breeding apportioning” section below for our full comments.

A.4.8.1 Great black-backed gull

We have found an error in the “proportion of adults in UK North Sea waters non-breeding season” values used for the non-breeding season apportioning for great black-backed gull. Table 44 of Furness (2015)¹⁰ shows that a proportion of 1 should be applied for the SPAs included in the apportioning for this species. However, the Applicant has applied values of 0.15 for Hoy and Calf of Eday and 0.5 for East Caithness Cliffs and Copinsay (we note that these values match those that

¹⁰ 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.

should be used for puffin). As a result, the Applicant has significantly underestimated the apportioning values for these SPAs.

We have recalculated the apportioning values, and when the correct proportion of adults in UK North Sea waters in the non-breeding season is applied, all four SPAs are apportioned enough mortalities to pass the 0.02 percentage point change in adult survival threshold for PVA. Under the Applicant's current assessment, they found that only Copinsay SPA and Hoy SPA passed the 0.02 percentage point threshold for PVA.

Table A-4 below presents a comparison between the Applicant's apportioning of non-breeding season collision mortalities (16.66 mean non-breeding season collisions under the worst-case scenario (WCS)) and NatureScot's recalculated apportioning, showing the impact of the use of the incorrect proportion of adults remaining in BDMPs value from Furness (2015). Percentage point change in mortality has been calculated using the Seabirds Count colony sizes, and a "latest count" of counts from 2015 to 2024 collated by the applicant. For context, we have also included a calculation of percentage point change in mortality using an updated "latest count" which includes counts from 2015 to 2025, however, we acknowledge that 2025 colony counts may not have been available to the Applicant at the time of their original assessment. Percentage point changes which exceed the 0.02 threshold are bolded, with differences in conclusion between the Applicant and the NatureScot assessment coloured in red.

This error is therefore significant enough to affect our conclusions for the RIAA.

Table A-4 Comparison of the difference between the Applicant's apportioning of non-breeding season collision mortalities and NatureScot's recalculated apportioning.

Site	WCS		Percentage point change in mortality					
	Apportioned mortality (apportioning value)		Applicant		Recalculated			
	Applicant	Recalculated	Seabirds Count	Applicant's Latest count (2015-2024)	Seabirds Count	Applicant's Latest count (2015-2024)	NS latest count (2015-2025)	
East Caithness cliffs SPA	0.032 (0.19%)	0.064 (0.38%)	0.006%	0.011%	0.012%	0.023%	0.024%	
Copinsay SPA	0.040 (0.24%)	0.079 (0.48%)	0.030%	0.041%	0.059%	0.082%	0.059%	
Hoy SPA	0.003 (0.02%)	0.022 (0.13%)	0.005%	0.028%	0.034%	0.182%	0.023%	
Calf of Eday SPA	0.015 (0.09%)	0.102 (0.62%)	0.010%		0.088%		0.366%	

For Table A-4 (above), percentage change in mortality has been calculated using the Seabirds Count colony sizes, and a "latest count" of counts from 2015 to 2024 collated by the Applicant. For context, we have also included a calculation of percentage point change in mortality using an updated "latest count" which includes counts from 2015 -2025, however, we acknowledge that 2025 colony counts may not have been available to the Applicant at the time of their original assessment. Percentage point changes which exceed the 0.02 threshold are in bold, with difference in conclusion between the Applicant and the NatureScot assessment, in red.

A.4.8.2 Minor errors

We also note the following minor errors which were found within the HRA Apportionment report. These errors are not significant enough to impact our conclusions.

- Typo in Table C1.3 – Guillemot: Calf of Eday has an “Area of foraging range as sea (km²) of 663,789 in this table. This is likely to be a typo, as it is approximately ten times larger than the same parameter for the other sites. We have checked, and this appears to be an error in the table only and it has not been propagated through the rest of the assessment.
- Typo in Table C1.5 – Puffin: Fowlsheugh SPA is missing data in the table. We have checked and the apportioning value for Fowlsheugh SPA should be approximately 0.05%. The rest of the apportioning values are not changed significantly by the inclusion or exclusion of Fowlsheugh SPA.
- For guillemot and razorbill, where there are some sites with recommended MMFR+SD that are larger than the standard, the Applicant has used the larger foraging distance for all sites when calculating the “proportion of foraging range as sea”, instead of using the appropriate site-specific or standard foraging distances for each site. We believe that this will not significantly change the results of the assessment.

A.5 NatureScot appraisal – EIA

A.5.1 Proposal alone impact assessment

The following impacts have been scoped out of the assessment for Offshore Ornithology:

- Accidental pollution during construction and decommissioning (including indirect effects) affecting offshore and intertidal ornithological receptors.
- Operational disturbance and displacement along the offshore export cable corridor affecting offshore and intertidal ornithological receptors.

We are content for these impacts to be scoped out.

A.5.1.1 Impact C1: Direct temporary habitat loss and/or disturbance, including vessel movements – OAA and offshore ECC

Temporary habitat loss and/or habitat disturbance is expected to occur due to construction activities, and associated vessel movements.

Vessel movements during construction

Guillemot, razorbill and puffin were scoped in for assessment for direct temporary habitat loss/disturbance due to the presence of vessels. These species are of medium sensitivity to vessel movements.

Diver and sea duck species are expected to be sensitive to disturbance due to vessel movements; however, no sea ducks were observed in the DAS, and red-throated diver were present in a single month of the survey data in low numbers. Therefore, we are content for divers and ducks to be scoped out of assessment for direct temporary habitat loss/disturbance due to the presence of vessels within the OAA and offshore ECC.

In the worst-case assessment scenario vessel movements during the construction phase are planned to consist of a maximum of 10 vessels on site at any one time, totalling 3,838 individual vessel trips over the 12 years of the construction period. The impact assessment provides no detail as to the ports and routes which may be used by the project.

This impact is expected to be spatially and temporarily limited, and reversible. The Applicant notes that the ECC is not known to be routed through any areas designated for foraging or resting birds that are sensitive to vessel movements. The Applicant assessed the overall magnitude of effect from this impact as being very low for all species.

The Applicant concludes that the effect significance of this impact is Minor Adverse (Not significant) in EIA terms. We are content with this conclusion as it relates to vessel movements within the OAA and ECC.

As no detail around ports and routes is provided, we cannot advise as to the potential for impacts to marine birds near the port(s) and along the routes from the port(s) to the Project. The proximity of these vessel movements to marine bird protected sites and sites with significant densities of marine birds, and the existing level of vessel traffic should be considered. These details should be discussed with NatureScot as they become available.

Embedded environmental measures

Relevant embedded environmental measures for this impact are stated to be under M-032 in Table 12.12, however, we cannot find a description of M-032 in this table or elsewhere in this document, and the M-032 outlined in the Commitments Register document described an Outline Marine Mammal Mitigation protocol, which does not appear to discuss ornithological receptors. **We request clarification on the embedded mitigation measures relevant to this impact.**

An outline Vessel Management and Navigational Safety Plan (VMNSP) is provided, with an “Environmental sensitivities relevant to vessel management” section which will summarise ornithology sensitivities and describe transit corridors in the context of environmental sensitivities, however, no detail has been provided at this time.

We welcome the implementation of a VMNSP which considers ornithological receptors, and would also recommend that vessels should take care to follow the guidelines of the [Scottish Marine Wildlife Watching Code](#).

A.5.1.2 Impact C2: Direct Temporary habitat loss and/or disturbance – ECC and landfall construction activities.

Seabirds within the ECC and landfall area(s) are expected to potentially experience barrier effects and disturbance caused by construction activities associated with the laying of the Offshore Export Cables.

Vantage point surveys were used at the two proposed landfall sites (Scotstown and Lunderton) to assess the presence of bird species at the landfall sites. The Applicant defines “important numbers” of birds as being >1% of an SPA, Ramsar or SSSI population that may have connectivity with the proposed landfall sites and associated buffers, or >1% of the UK or international population.

Herring gull (Scotstown), sandwich tern (Scotstown and Lunderton), guillemot (Scotstown), shag (Scotstown and Lunderton) and eider (Lunderton) were identified as being present in the intertidal area in significant numbers during vantage point surveys and were considered in the qualitative assessment. The Applicant scored sensitivities of these species to disturbance ranging from low (herring gull) to moderate (guillemot, shag, eider) to high (sandwich tern).

We also note that a number of species were present in very high peak numbers in the intertidal vantage point surveys but did not pass the 1% threshold for the Applicant's assessment of importance. In particular, a peak count of 700 common scoter at Lunderton was noted. While these numbers do not pass the Applicant's 1% threshold, they indicate that these species are making use of the landfall site(s).

Table A-5 Overview of the intertidal ornithological receptors recorded in high numbers (peak count >100) during site specific vantage point surveys at either of the two proposed landfall sites, but where the 1% of relevant population threshold was not met.

Species	Scotstown survey peak count	Lunderton survey peak count	Temporal range of records across both landfall sites
Common Scoter	0	700	May
Common gull	427	98	March to December
Razorbill	350	150	Present year-round
Wigeon	320	4	September to November
Gannet	300	10	May to November
Arctic tern	265	0	May to August
Golden plover	260	0	October to February
Lapwing	190	0	November to February
Black-headed gull	159	150	Present year-round
Kittiwake	110	45	May to November

As the seasonal timing of ECC and landfall construction activities has not yet been determined, we recommend that these activities, and preparatory activities such as geotechnical surveys, should consider how the seasonal timing may affect impacts to the species identified as using the landfall site(s) in important numbers.

The Applicant proposes the use of Horizontal Directional Drilling (HDD) as the landfall installation option. Use of HDD is expected to reduce potential disturbance to birds in the intertidal area by predominantly bypassing the intertidal area. There is still expected to be an increased vessel presence around the offshore exit points, which may cause disturbance.

Additionally, the Applicant states that it is assumed that 24-hour lighting would be required at the landfall(s) temporary construction compound during HDD operations. The landfall construction works duration is expected to be up to three years old (one year per each of the three phases). Further information as to the details of the 24-hour lighting (e.g. light brightness, number of lights) and details of any measures taken to reduce light pollution (e.g. shielding, use of directional lighting), as well as the size and location of construction compound, and the proximity to any protected sites or concentrations of birds would be helpful in determining whether this factor could have an impact on ornithological receptors.

The seasonality of the construction activities at the landfall(s) has not yet been determined and so the assessment assumes construction activities taking place throughout the year.

Construction activities at the landfall(s) are expected to be temporary with a limited spatial extent, with impacts being reversible. The Applicant therefore concludes that the impacts will be Minor Adverse (Not Significant) in EIA terms.

We accept this conclusion **but request additional details on the lighting (colour spectrum, design, direction of lighting, timing and duration etc.) for the construction compound when available.**

Embedded mitigation

The Applicant proposes that the use of HDD as the Landfall installation option will mitigate the potential disturbance to birds (embedded environmental measure M-056). Determination of the most suitable trenchless landfall crossing method will be undertaken during the detailed design stage of the Project, following geotechnical investigations of the onshore and nearshore areas. We would encourage the Applicant to consult with NatureScot concerning the potential impacts to seabirds once more information is available.

We would also recommend that vessels involved in ECC survey and construction activities should take care to follow the guidelines of the [Scottish Marine Wildlife Watching Code](#).

A.5.1.3 Impact C3/O1: Indirect impacts due to effects on prey species and habitats

During construction prey species and habitats are expected to be potentially impacted via habitat loss and/or disturbance, generation of suspended sediments and associated underwater noise from construction activity.

Kittiwake, guillemot, razorbill and puffin were scoped in for impacts due to disturbance to prey species and their habitats during both construction and operation and maintenance. The key prey species for these ornithological receptors include Atlantic herring, European sprat and common sandeel. The Applicant has concluded that the ornithological receptors have a medium sensitivity for this impact.

The Applicant concluded no significant effects on key prey receptors, and therefore a very low magnitude of impact. The Applicant has concluded Minor Adverse (Not Significant) for this impact in the construction phase, and Negligible Adverse (Not Significant) for this impact in the operation and maintenance phase. We accept these conclusions.

Embedded mitigation

As indicated above, M-032 is missing and the M-032 outlined in the Commitments Register document described an Outline Marine Mammal Mitigation protocol, which does not appear to discuss ornithological receptors.

A.5.1.4 Impact O2: Distributional responses (OAA)

Impacts due to displacement from the Array Area were assessed quantitatively for kittiwake, guillemot, razorbill, puffin and gannet.

We are content with the approach used for the displacement modelling, please see above (Displacement Modelling - Appendix 12.2) for further detail. Please see the Section A.5.2 below for a detailed discussion of our evaluation of the results of this assessment.

No embedded environmental measures are planned for this impact.

A.5.1.5 Impact O3: Collision risk mortality (OAA)

Impacts due to collision risk were assessed quantitatively for kittiwake, great black-backed gull, herring gull, lesser black-backed gull, great skua and gannet. The Collision Risk Modelling (CRM) approach (as described in section 12.10.4 of Chapter 12) fits NatureScot's guidance. Please see Section A.5.2 below for our detailed advice.

Migratory collision risk was modelled using the mCRM tool, as advised in Guidance Note 7. The migratory species with the highest number of collision mortalities per annum were mallard (53.48), wigeon (17.15), lapwing (9.87), snipe (7.96), golden plover (7.13), tufted duck (5.51), common scoter (5.46), dunlin (4.49), shelduck (2.56), whimbrel (1.98), goldeneye (1.85), goosander (1.70), bar tailed godwit (1.70), red throated diver (1.58), whooper swan (1.55), eider (1.18), and shoveler (1.07). The estimated mortalities due to migratory collisions did not exceed a 0.02% change in the regional baseline population survival rate for any receptor. **We are therefore content to accept the Applicant's conclusion that impacts due to migratory collision risk are not significant in EIA terms**

Embedded mitigation

The Applicant proposes the use of a minimum blade tip clearance of at least 22m above mean high water springs (M-046).

A.5.1.6 Impact O2 & O3: Combine collision and distributional response impacts (OAA)

The combined impacts of collision and distributional responses were assessed quantitatively for gannet and kittiwake. Please see the Detailed Advice: Section 2 below for a detailed discussion of our evaluation of the results of this assessment.

A.5.1.7 Impact O4: Entanglement with mooring lines

Guillemot, razorbill, puffin and gannet were scoped in for this impact, as diving seabirds which may be at risk from entanglement. Entanglement may be "primary entanglement" where seabirds could become directly entangled in the mooring cables and associated infrastructure, or "secondary entanglement" where seabirds could become entangled in debris, such as fishing gear, caught on mooring lines and associated infrastructure.

Eight mooring lines per wind turbine generator floating unit, equalling a total of 1,800 mooring lines are expected under the maximum design scenario parameters. The impact is expected to be of a limited spatial extent, and reversible. The magnitude of impact is therefore considered to be not significant, with the embedded mitigation described below.

Embedded mitigation

The Applicant's embedded environmental measures include routinely inspecting mooring lines and removing any snagged fishing gear, however a specific mitigation measure such as an entanglement management plan is not described. **We advise Marine Directorate that an appropriate mitigation measure is secured following refinement of the project envelope** when a more accurate estimation of the number and location of mooring lines is possible. This should include details of the frequency and manner of routine inspections and the removal process.

A.5.1.8 Other Impacts

UXO clearance

The potential for direct impacts from Unexploded Ordnance (UXO) clearance was not discussed in the EIA report Volume 1, Chapter 12: Offshore and Intertidal Ornithology. UXO clearance detonations may directly affect marine birds through injury, and indirectly impact marine birds through underwater noise, disturbance and damage to the seabed.

We note that the embedded environmental measures relating to marine mammals includes the development of a UXO management plan, and the use of “low order” techniques such as deflagration for UXO disposal, where possible and required. It is likely that these measures will also be able to mitigate the risk of direct impacts from UXO clearance for marine birds. We therefore advise that these measures should also consider marine birds where possible.

Attraction to light

Potential impacts due to attraction to and/or disorientation from artificial lighting were discussed in section “Consideration of shearwaters and petrels” of 12.6.2 Offshore Ornithology current baseline. The Applicant notes that shearwaters and petrels were recorded in low numbers in the OAA plus 4km buffer. A total of 12 European storm petrels, 49 unidentified storm petrels and 3 Manx shearwaters were recorded in the DAS for the OAA plus 4km buffer. These species are active at night during the breeding species, and so it is possible that additional birds may have been present outside the daylight hours covered by the DAS. The Applicant has provided a review of tracking data for European storm petrel in the Shetland Isles, and a review of Manx shearwater foraging behaviour, which shows that these species are unlikely to be present in the Array Area in high numbers at night. While Bolton’s (2021)¹¹ map of storm petrel distribution at night does show the potential for some storm petrel presence in the Array Area at night, the night-time density does appear to be lower and less consistent than the day-time density in this region.

The Applicant also states that the artificial lighting associated with the Project is planned to be of a significantly lower intensity than the artificial lighting found to impact Procellariiformes. However, the details of the planned artificial lighting (e.g., luminous intensity, flashing, colour etc) are not provided within the offshore ornithology impact assessment. This should be included in the Lighting Plan if consented.

We are content to conclude that the impact of attraction to light on European storm petrel and Manx shearwater is not significant in EIA terms.

A.5.2 Significant Impacts on Seabird Species

A.5.2.1 Fulmar

The impacts of distributional responses on fulmar were assessed qualitatively, as advised by NatureScot in a HRA meeting on the 24th of June 2025. The Applicant has provided a literature review of the potential for displacement behaviour in fulmar, and has concluded a low sensitivity, a very low magnitude and therefore negligible adverse (Not Significant) in EIA terms.

¹¹ Bolton, M., (2021). *GPS tracking reveals highly consistent use of restricted foraging areas by European Storm-petrels *Hydrobates pelagicus* breeding at the largest UK colony: implications for conservation management*. Bird Conservation International, 31(1), pp. 35–52.

We accept the Applicant's conclusion of Not significant in EIA terms for fulmar.

A.5.2.2 Lesser black-backed gull

A total collision mortality estimate of 0.27 was predicted for lesser black-backed gull, with collisions occurring in the non-breeding season only. This level of mortality was not sufficient to pass the threshold of 0.02 percentage point change in mortality for the non-breeding season regional population, and so a PVA assessment was not required.

We accept the Applicant's conclusion of Not significant in EIA terms for lesser black-backed gull.

A.5.2.3 Great Skua

A total collision mortality estimate of 0.68 was predicted for Great Skua, with collisions occurring in the breeding season only. Within the EIA the Applicant has used Seabirds Count as the source for the colony counts for great skua. This data is not as contemporaneous to the DAS data as newer colony counts available in the SMP database, particularly considering the HPAI outbreak which was concurrent to the DAS flights. However, we have assessed the difference between the Applicant's colony counts and newer colony counts and found that it does not significantly impact our final conclusions, additionally, the Applicant has used more recent counts for the RIAA.

We accept the Applicant's conclusion of Not Significant in EIA terms for great skua.

A.5.2.4 Kittiwake

The impact assessment predicted a total of 41.7 to 47.9 kittiwake mortalities per annum due to the combined project-alone impacts of collision and displacement under the worst-case scenario. These impacts did not exceed the 0.02 percentage point change in adult survival threshold for the regional population and therefore project alone PVAs were not required.

The Applicant's conclusion is that the project alone impacts of collision and displacement on kittiwake are negligible (Not Significant) in EIA terms.

We accept the Applicant's conclusion of Not Significant in EIA terms for kittiwake.

A.5.2.5 Gannet

The impact assessment predicted a total of 49.57 to 62.83 gannet mortalities per annum due to the combined project-alone impacts of collision and displacement under the worst-case scenario. These impacts did not exceed the 0.02 percentage point change in adult survival threshold for the regional population and therefore project alone PVAs were not required.

The Applicant's conclusion is that the project alone impacts of collision and displacement on kittiwake are negligible (Not Significant) in EIA terms.

We accept the Applicant's conclusion of Not Significant in EIA terms for gannet.

A.5.2.6 Great black-backed gull

The impact assessment predicted a total of 19.5 great black-backed gull mortalities per annum due to the project-alone impacts of collision under the worst-case scenario. These impacts exceeded the

0.02 percentage point change in adult survival threshold for the regional population and therefore project alone PVAs were required.

The results of the PVA assessment show minor impacts to the counterfactuals of population size and growth rate. **We accept the Applicant's conclusion Not Significant in EIA terms for great black-back gull.**

Table A-6 Summary of the results of the project alone impact assessment for great black-backed gull including collision and displacement mortality estimates and the resulting counterfactuals from the 35- year PVA assessment.

Project contribution to mortality	35-year PVA results		
Collision	Scenario	Median CGR	Median CPS
19.5	Including BB	1.000	0.991

A.5.2.7 Herring gull

The impact assessment predicted a total of 7.23 herring gull mortalities per annum due to the project-alone impacts of collision under the worst-case scenario. These impacts did not exceed the 0.02 percentage point change in adult survival threshold for the regional population and therefore project alone PVAs were not required.

The Applicant's conclusion is that the project alone impacts of collision and displacement on herring gull are negligible (Not Significant) in EIA terms.

We accept the Applicant's conclusion of Not Significant in EIA terms for herring gull.

A.5.2.8 Guillemot

The impact assessment predicted a total of 337.2 to 603.9 guillemot mortalities per annum due to the project-alone impacts of displacement under the worst-case scenario. These impacts exceeded the 0.02 percentage point change in adult survival threshold for the regional population and therefore project alone PVAs were required.

Table A-7 Summary of the results of the project alone impact assessment for guillemot including collision and displacement mortality estimates and the resulting counterfactuals from the 35-year PVA assessment.

Project contribution to mortality	35-year PVA results		
Displacement	Scenario	Median CGR	Median CPS
337.22 to 603.94	Including BB	0.996-0.998	0.879-0.930

We are unable to conclude that the impacts to guillemot from the project alone impacts to the regional population are not significant in EIA terms, taking into account the following:

- The low CPS values, which represent a decrease in the regional population size after 35 years of 7-12.1% including Berwick Bank.
- The low CGR values, which represent a decrease in the population growth rate after 35 years of 0.2-0.4% including Berwick Bank.
- 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.

We are unable to conclude No Significant Effect in EIA terms for guillemot.

However, as we have concluded that the cumulative impacts to guillemot within the regional population are significant in EIA terms, and that there is likely to be Adverse Effect on Site Integrity for guillemot at Buchan Ness to Collieston Coast SPA, Copinsay SPA and Troup, Pennan and Lions Head SPA both alone and cumulatively, as well as being unable to conclude no Adverse Effect on Site Integrity at Calf of Eday SPA in the in-combination assessment. Therefore, we expect the project's contribution to impacts to guillemot under EIA to be sufficiently compensated for under HRA.

A.5.2.9 Puffin

The impact assessment predicted a total of 10.3 to 17.5 puffin mortalities per annum due to the project-alone impacts of displacement under the worst-case scenario. These impacts did not exceed the 0.02 percentage point change in adult survival threshold for the regional population and therefore project alone PVAs were not required.

The Applicant's conclusion is that the project alone impacts of collision and displacement on kittiwake are negligible (Not Significant) in EIA terms.

We accept the Applicant's conclusion of Not Significant in EIA terms for puffin.

A.5.2.10 Razorbill

The impact assessment predicted a total of 13.7 to 32.5 razorbill mortalities per annum due to the project-alone impacts of displacement under the worst-case scenario.

These impacts exceeded the 0.02 percentage point change in adult survival threshold for the regional population in the breeding season and therefore project alone PVAs would be required. However, the Applicant has not performed project alone PVAs for this species. **We are therefore unable to provide a conclusion concerning the potential EIA significance of the project-alone impacts on razorbill.**

However, as we have concluded that the cumulative impacts to razorbill within the regional population are significant in EIA terms, and that there is likely to be Adverse Effect on Site Integrity for razorbill at East Caithness Cliffs SPA, and were unable to conclude no Adverse Effect on Site Integrity at Fair Isle SPA and Troup, Pennan, and Lion's Head SPA in the in-combination assessment. Therefore, we expect the EIA impacts to razorbill to be sufficiently compensated for under HRA.

A.6 Cumulative effects assessment

The Cumulative Effects Assessment (CEA) performed by the Applicant includes projects which fall under tier one and two of the Applicant's tiered approach to the CEA.

The long list of projects was narrowed down into a short list for each species using a Zone of Influence (ZOI) defined in the breeding season by projects within the mean maximum foraging range (MMFR) plus one standard deviation (SD) of the project, and in the non-breeding season by the BDMPS region.

The applicant has used the Northeast and East Ornithology Group for ScotWind Projects (NEEOG) in-combination and cumulative totals (Royal HaskoningDHV, 2024¹²) as the reference source for distributional response effects, and the Sheringham Shoal and Dudgeon Offshore Wind Farm Extensions Projects CRM update dataset as the reference source for collision risk effects. It is unclear why the Applicant has used different sources for the two impacts. The Applicant states that updates were provided to the data where necessary to account for development design refinements and to include new developments.

We note that most projects have been evaluated based on their consented design, rather than as-built, and therefore the results of the CEA are expected to be precautionary, as the as-built designs may result in lower impacts than the consented designs.

We also note that the Applicant has only presented a CEA that includes Berwick Bank, and no without Berwick Bank scenario is presented. While a consent decision for Berwick Bank has since been made (August 2025), this concluded that compensation measures submitted by Berwick Bank are insufficient. We have assessed the scenario presented. **On the basis that compensation measures submitted for Berwick Bank are currently deemed insufficient, we advise that cumulative impacts 'Without Berwick Bank' should be considered by MD-LOT and advice given if this is required.**

A.6.1 Minor errors

For most of the species in Chapter 33, Appendix 4, the PVA table results have an error where it appears that the CPS values have been taken from the 50-year PVA results tables instead of the 35-year PVA results table. We have taken this error into account and based our conclusions on the 35-year PVA results as presented in the EIA PVA Appendix 12.4.

A.6.2 Significant Impacts to Seabirds - Cumulative Effects

A.6.2.1 Kittiwake

We conclude that the cumulative effects on kittiwake in the regional population would be **Significant** in EIA terms. This conclusion is based on:

- The low CPS values, which represent a decrease in the regional population size after 35 years of 19.9-22.4% including Berwick Bank.
- The low CGR values, which represent a decrease in the population growth rate after 35 years of 0.6-0.7% including Berwick Bank.
- The status of the kittiwake population, with a 57% decrease in Scottish and a 43% decrease in the UK populations between Seabird 2000 and Seabirds Count.

Table A-8 Summary of the results of the cumulative impact assessment for kittiwake, including collision and displacement mortality estimates and the resulting counterfactuals from the 35-year PVA assessment.

Project contribution to mortality		35-year PVA results		
Collision	Displacement	Scenario	Median CGR	Median CPS
38.6	3.1 to 9.31	Including BB	0.993 to 0.994	0.776 to 0.801

¹² Royal HaskoningDHV, (2024). *In-combination and Cumulative Totals for Seabird Species of Key Importance to Northeast and East ScotWind Projects*. Document reference PC4885-102-RHD-XX-XX-RP-X-0001

A.6.2.2 Gannet

We conclude that the cumulative effects on gannet in the regional population would be **Significant** in EIA terms. This conclusion is based on:

- The low CPS values, which represent a decrease in the regional population size after 35 years of 13.8-21.7% including Berwick Bank.
- The low CGR values, which represent a decrease in the population growth rate after 35 years of 0.4-0.7% including Berwick Bank.
- The recent impacts of HPAI on the gannet population.

Table A-9 Summary of the results of the cumulative impact assessment for gannet (guidance approach), including collision and displacement mortality estimates and the resulting counterfactuals from the 35-year PVA assessment.

Project contribution to mortality		35-year PVA results		
Collision	Displacement	Scenario	Median CGR	Median CPS
42.95	6.62 to 19.87	Including BB	0.993 to 0.996	0.783 to 0.862

A.6.2.3 Great black-backed gull

We conclude that the cumulative effects on great black-backed gull in the regional population would be **Significant** in EIA terms. This conclusion is based on:

- The very low CPS values, which represent a decrease in the regional population size after 35 years of 43.1% including Berwick Bank.
- The very low CGR values, which represent a decrease in the population growth rate after 35 years of 1.6% including Berwick Bank.
- The status of the great black-backed gull population, with a 63% decrease in Scottish and a 52% decrease in the UK populations between Seabird 2000 and Seabirds Count. The great black-backed gull population has continued to decline since Seabirds Count, as evident from the Applicant's apportionment report, where the Applicant provided a comparison of colony counts sourced from Seabirds Count and counts supplemented with newer counts from the SMP database. In all cases presented in the apportionment report, the SPA colony counts have significantly declined, with an overall decline of 40.5% across the four SPA colonies shown in Table C3.1.

Table A-10 Summary of the results of the cumulative impact assessment for great black-backed gull, including collision and displacement mortality estimates and the resulting counterfactuals from the 35-year PVA assessment.

Project contribution to mortality		35-year PVA results		
Collision		Scenario	Median CGR	Median CPS
19.5		Including BB	0.984	0.569

In section 4.3.3.5 the Applicant states: *“When considering the level of uncertainty in assessments and environmental risks outlined above with compensating for great black-backed gull. The Project proposes that undertaking post-consent monitoring to better understand the true impact of the Project on great black-backed gulls is strongly advised before commitment to compensation is made, given the potential for adverse effects on other seabird species as highlighted above.”*

The Applicant does not provide detail as to what post-consent monitoring may be performed in order to determine the true impact of the Project on great black-backed gulls. The Applicant states that this monitoring would be performed post-consent but does not specify whether it would be performed pre-construction. Compensation must be effective before the impact begins. Impacts left uncompensated may result in severe consequences, especially considering the small population size and ongoing declines in great black-backed gulls. This may require further discussion based on the re-assessment of great black backed gull as advised above.

The Applicant should consider whether great black-backed gulls are likely to benefit from any of the planned compensation measures focussed on other species.

A.6.2.4 Herring gull

We conclude that the cumulative effects on herring gull in the regional population would be **Not Significant** in EIA terms. This conclusion is based on:

- The high CPS values, which represent a decrease in the regional population size after 35 years of 0.4% including Berwick Bank.
- The high CGR values, which represent a decrease in the population growth rate after 35 years of 0.00% including Berwick Bank.

Table A-11 Summary of the results of the cumulative impact assessment for herring gull, including collision and displacement mortality estimates and the resulting counterfactuals from the 35-year PVA assessment.

Project contribution to mortality	35-year PVA results		
Collision	Scenario	Median CGR	Median CPS
7.23	Including BB	1.000	0.996

A.6.2.5 Guillemot

We conclude that the cumulative effects on guillemot in the regional population would be **Significant** in EIA terms. This conclusion is based on:

- The very low CPS values, which represent a decrease in the regional population size after 35 years of 27.4-47.5% including Berwick Bank.
- The very low CGR values, which represent a decrease in the population growth rate after 35 years of 0.9-1.8% including Berwick Bank.
- 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.

Table A-12 Summary of the results of the cumulative impact assessment for guillemot, including collision and displacement mortality estimates and the resulting counterfactuals from the 35-year PVA assessment.

Project contribution to mortality	35-year PVA results		
Displacement	Scenario	Median CGR	Median CPS
337.22 to 603.94	Including BB	0.982 to 0.991	0.726

A.6.2.6 Puffin

We conclude that the cumulative effects on puffin in the regional population would be **Significant** in EIA terms. This conclusion is based on:

- The low CPS values, which represent a decrease in the regional population size after 35 years of 16.1-29.6% including Berwick Bank.
- The low CGR values, which represent a decrease in the population growth rate after 35 years of 0.5-1% including Berwick Bank.
- The status of the puffin population, with a 32% decrease in Scottish and a 23% decrease in the UK populations between Seabird 2000 and Seabirds Count ("comparable counts" dataset).

Table A-13 Summary of the results of the cumulative impact assessment for puffin, including collision and displacement mortality estimates and the resulting counterfactuals from the 35-year PVA assessment.

Project contribution to mortality	35-year PVA results		
Displacement	Scenario	Median CGR	Median CPS
10.27 to 17.52	Including BB	0.990 to 0.995	0.704 to 0.839

A.6.2.7 Razorbill

We conclude that the cumulative effects on razorbill in the regional population would be **Significant** in EIA terms. This conclusion is based on:

- The low CPS values, which represent a decrease in the regional population size after 35 years of 8.8-22.6% including Berwick Bank.
- The low CGR values, which represent a decrease in the population growth rate after 35 years of 0.3-0.7% including Berwick Bank.
- The status of the razorbill population, with a 2% decrease in Scottish population between Seabird 2000 and Seabirds Count.

Table A-14 Summary of the results of the cumulative impact assessment for razorbill, including collision and displacement mortality estimates and the resulting counterfactuals from the 35-year PVA assessment.

Project contribution to mortality	35-year PVA results		
Displacement	Scenario	Median CGR	Median CPS
13.69 to 32.53	Including BB	0.993 to 0.997	0.774 to 0.912

A.6.3 Monitoring – Project Environmental Monitoring Plan (PEMP)

The Outline project environmental monitoring programme (PEMP) provides some details of the proposed monitoring approach to ornithological monitoring in section 5.7. This outline PEMP relates to the EIA-related monitoring only. The Applicant notes that the final PEMP, with details of timings and detailed methodology, will not be produced until closer to the time of the proposed monitoring i.e. post consent.

The outline PEMP provides two potential monitoring options. Option A is project-led monitoring and Option B is collaborative regional monitoring.

Option A includes the collection of abundance, distribution and behavioural data pre and post construction, focussing on the post-breeding months (August to November). The applicant has selected this time period based on the period of peak abundance, however, we would recommend that the seasons covered by the post-consent monitoring should be based on the conclusions of the Appropriate Assessment. From our conclusions of EIA significance, we would expect the significantly impacted species to be impacted throughout the year. Additionally, the peak abundance of most of the key species occurred outside this time period.

Table A-15 Survey months in which the year 1 and year 2 peak abundance occurred for the species where our assessment determined the impacts to be significant in EIA terms (data from Volume 3, Appendix 12.1). Months highlighted in bold indicated the month with the peak abundance across the two years of DAS. Months highlighted in blue occur outside of the proposed post-consent monitoring period. NBS = nonbreeding season, BS = breeding season.

Species	Year 1 peak abundance	Year 2 peak abundance
Kittiwake	April (BS)	July (BS)
Great black-backed gull	January (NBS)	February (NBS)
Guillemot	April (BS)	August (post-breeding)
Razorbill	September (NBS)	November (NBS)
Puffin	May (BS)	May (BS)
Gannet	August (BS)	April (BS)

The seasons that should be covered by post-consent monitoring will also depend on the type of monitoring that will be used. Post-consent monitoring plans should therefore be discussed with NatureScot once more information and the Appropriate Assessment conclusions are available.

Option B includes the project contributing to regional and strategic monitoring initiatives to improve the understanding of offshore wind environmental effects. This may include regional surveys, tagging programmes, Scottish Marine Energy Research (ScotMER) programmes, and/or developer led regional groups.

A.6.4 Transboundary

The Applicant concludes no potential transboundary effects upon the environment of European Economic Areas outside of the UK. We accept this conclusion.

A.7 NatureScot appraisal – RIAA

A.7.1 Quality and content of the Application

Within the report, we have noted a number of potential labelling errors. For ease, we have listed some examples below, and **we request clarification on these by the Applicant:**

- Appendix D – Table 6.26 and 6.29 on page 256 and 260 is labelled as the Developer approach. From our understanding there is not a Developer approach for Kittiwake, so we have assumed this is a labelling error and is the Guidance approach outputs.
- Appendix D – Table 6.105 on page 366 is labelled as the Developer approach. From our understanding there is not a Developer approach for Kittiwake, so we have assumed this is a labelling error and is the Guidance approach outputs.

- Appendix E - section 2.6.6 Hermaness, Saxa Vord and Valla Field SPA for gannet, table 2.175 and 2.176 on pages 343 and 344 are labelled as Forth Islands.

Additionally, there are discrepancies between Table 3.15 in Appendix D and Table 2.30 in Appendix E when looking at CPS values. The combined effects 30% displacement; 1% mortality and 3% mortality for all projects excluding consented projects with a commitment to compensation do not align.

We have based our conclusions on the figures presented in Appendix D. If the figures in Appendix E are correct it will not change our conclusions as presented later in the advice.

For this assessment we have assumed these are purely copy and paste errors, **but we require confirmation that this is correct.**

A.7.2 Approach to the RIAA assessment

The Applicant has used the latest counts (data from the Seabird Monitoring Programme) for the RIAA but appears to have used the Seabirds Count for the EIA. In some cases, the Applicant uses Seabirds Count within the RIAA. We have assumed that this is because an updated count has not been carried out since Seabirds Count was published.

We note that where the upper impact scenario triggers the PVA threshold (0.02% change in survival) and the lower does not, only the upper impact scenario has a PVA run ((kittiwake at Copinsay project alone (page 32 of Appendix D, RIAA) and Gannet at Forth Islands project alone (page 70, Appendix D, RIAA)). We typically expect to see both outputs, but as we conclude no AEoSI in both cases, we accept this on this occasion.

For the in-combination assessment we have based our assumption on the impacts that will be compensated for by various consented projects, including Berwick Bank, has been pulled through the assessment correctly.

One key point to raise in terms of in-combination impacts is that the Applicant appears to have used the outputs from the original Muir Mhor, Ossian and Caledonia applications. However, there has been additional information submitted for each of these applications as there were issues with the original impact figures presented. With the updated figures we have identified several sites which may be an issue, further work may need to be done to confirm this, please see Table A-16, below.

Table A-16 Updated impact assessment for Muir Mhor, Ossian and Caledonia that might impact the MarramWind assessment.

Site	Species
Cape Wrath SPA	Kittiwake
Copinsay SPA	Kittiwake
Fair Isle SPA	Gannet
	Puffin
Forth Islands SPA	Puffin
Hermaness, Saxa Vord and Valla Field SPA	Gannet
Hoy SPA	Puffin
Marwick Head SPA	Kittiwake
North Rona and Sula Sgeir SPA	Gannet
Noss SPA	Gannet
Rousay SPA	Kittiwake

A.7.3 NatureScot Approach to PVA results and determination of AEoSI for SPAs

Our assessments of AEoSI 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 feature
- Species ecology
- Proportional importance of the species in Scotland and UK
- Impacts of HPAI and other recent mortality events.

PVAs were undertaken for the following impact pathways:

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

A.7.4 Proposal alone assessment of impacts on breeding seabird SPAs

We conclude **no AEoSI** for all species and sites not taken through to PVA, and our conclusions for sites where PVAs have been undertaken are shown below in Table A-17.

Table A-17 Determination of AEoSI for proposal alone impacts.

Site	Species	CPS (upper and lower impact scenarios)	Determination
Buchan Ness to Collieston Coast SPA	Guillemot	0.842 – 0.908	AEoSI
Calf of Eday SPA	Guillemot	0.954 - 0.974	No AEoSI
Copinsay SPA	Guillemot	0.899 – 0.914	AEoSI
	Kittiwake	0.992*	No AEoSI
Fair Isle SPA	Guillemot	0.951 – 0.972	No AEoSI
Forth Islands SPA	Gannet	0.991*	No AEoSI
Troup, Pennan and Lion's Heads SPA	Guillemot	0.564 – 0.757	AEoSI
	Razorbill	0.988 – 0.993	No AEoSI
West Westray SPA	Kittiwake	0.995 – 0.996	No AEoSI

*Denotes where the Applicant has presented only upper impact CPS

Due to the convention used in the application, some sites have been said not to have reached the 0.02 survival rate threshold for undertaking PVA, due to the fact that the data is presented to 3 decimal places (dp). We would anticipate that for these situations, the figures would be rounded up to 2dp as the threshold is shown to 2dp. For example, a PVA was not run for kittiwake combined distributional and collision impacts for Noss (Table 6.114 of the RIAA), as the outputs were 0.015 to 0.016 compared to the latest count data.

A.7.5 Individual SPA assessment (project alone)

A.7.5.1 Buchan Ness to Collieston Coast SPA

Table A-18 PVA results for Buchan Ness to Collieston Coast SPA.

Site	Species	CPS (upper and lower impact scenarios)	Adverse Effect on Site Integratory conclusion
Buchan Ness to Collieston Coast SPA	Guillemot	0.842 - 0.908	AEoSI

We conclude **AEoSI** for guillemot at Buchan Ness to Collieston Coast SPA, considering:

- the low CPS values
- a population decline of between 9.2% - 15.8% (low – high impact scenarios)
- a decrease in population growth rate of between 0.3% - 0.5% (low – high impact scenarios)
- the favourable condition of the feature
- a 0% population change between Seabird 2000 and Seabirds Count.

A.7.5.2 Calf of Eday SPA

Table A-19 PVA results for Calf of Eday SPA.

Site	Species	CPS (upper and lower impact scenarios)	Adverse Effect on Site Integratory conclusion
Calf of Eday SPA	Guillemot	0.954 - 0.974	No AEoSI

We conclude **no AEoSI** for guillemot at Calf of Eday SPA.

A.7.5.3 Copinsay SPA

Table A-20 PVA results for Copinsay SPA (*Applicant only presented upper impact CPS).

Site	Species	CPS (upper and lower impact scenarios) *	Adverse Effect on Site Integratory conclusion
Copinsay SPA	Guillemot	0.899 – 0.914	AEoSI
	Kittiwake	0.992*	No AEoSI

*Denotes where the Applicant has presented only upper impact CPS

We conclude **AEoSI** for guillemot at Copinsay SPA, considering:

- the low CPS values
- a population decline between 8.6% - 10.1% (low – high impact scenarios)
- a decrease in population growth rate of between 0.2% - 0.3% (low – high impact scenarios)
- the unfavourable condition of the feature
- 1% population decline between Seabird 2000 and Seabirds Count
- the recent impact of HPAI resulting in a recent 56% decline in population (Tremlett 2023¹³)

We conclude **no AEoSI** for kittiwake at Copinsay.

A.7.5.4 Fair Isle SPA

¹³ Tremlett et al 2024 - UK seabird colony counts in 2023 following the 2021-22 outbreak of Highly Pathogenic Avian Influenza. RSPB Research Report 76

Table A-21 PVA results for the Fair Isle SPA.

Site	Species	CPS (upper and lower impact scenarios)	Adverse Effect on Site Integratory conclusion
Fair Isle SPA	Guillemot	0.951 – 0.972	No AEoSI

We conclude **no AEoSI** for guillemot at Fair Isle SPA.

A.7.5.5 Forth Islands SPA

Table A-22 PVA results for the Forth Islands SPA.

Site	Species	CPS (upper and lower impact scenarios) *	Adverse Effect on Site Integratory conclusion
Forth Islands SPA	Gannet	0.991	No AEoSI

*Denotes where the Applicant has presented only upper impact CPS

We conclude **no AEoSI** for gannet at Forth Islands SPA.

A.7.5.6 Troup, Pennan and Lion's Heads SPA

Table A-23 PVA results for Troup, Pennan and Lion's Heads SPA.

Site	Species	CPS (upper and lower impact scenarios)	Adverse Effect on Site Integratory conclusion
Troup, Pennan and Lion's Heads SPA	Guillemot	0.564 – 0.757	AEoSI
	Razorbill	0.988 – 0.993	No AEoSI

We conclude **AEoSI** for guillemot at Troup, Pennan and Lion's Heads SPA, considering:

- the very low CPS
- a population decline of between 24.3% - 43.6%
- a decrease in population growth rate of between 0.8% - 1.6% (lower – upper impact scenario)
- the unfavourable condition of the feature
- a 50% decline in population between Seabird 2000 and Seabirds Count

We conclude **no AEoSI** for razorbill at Troup, Pennan and Lion's Heads SPA.

A.7.5.7 West Westray SPA

Table A-24 PVA results for West Westray SPA.

Site	Species	CPS (upper and lower impact scenarios)	Adverse Effect on Site Integratory conclusion
West Westray SPA	Kittiwake	0.995 - 0.0.996	No AEoSI

We conclude **No AEoSI** for kittiwake at West Westray SPA.

A.7.6 In-combination assessment of AEoSI

There are two scenarios presented for the in-combination assessment:

1. All projects
2. All projects, excluding consented projects with a commitment to compensation.

We note, as Berwick Bank has now been granted consent, that compensation will be required for several features and SPAs.

Our assessments are based on the data, as is presented in the Application under scenario 2: All projects, excluding consented projects with a commitment to compensation.

PVAs were undertaken for the below sites, shown in Table 10, and our advice is based upon the PVA outputs over 35 years. Our advice is based upon the understanding that the information in the application is correct. This is provided below in the form of:

- a summary table
- more detailed assessments for individual SPAs and species.

Table A-25 Summary of in-combination assessment where PVAs were undertaken.

Site	Species	CPS (upper and lower impact scenarios) *	Adverse Effect on Site Integratory conclusion
Buchan Ness to Collieston Coast SPA	Guillemot	0.696 - 0.840	AEoSI
	Kittiwake	0.862 - 0.882	Unable to conclude No AEoSI
Calf of Eday SPA	Guillemot	0.878 - 0.940	Unable to conclude No AEoSI
Copinsay SPA	Guillemot	0.790 - 0.876	AEoSI
East Caithness Cliffs SPA	Kittiwake	0.583 - 0.677	AEoSI
	Razorbill	0.703 - 0.836	AEoSI
Fair Isle SPA	Gannet	0.923 - 0.946	No AEoSI
	Guillemot	0.920 - 0.959	No AEoSI
	Puffin	0.979 - 0.989	No AEoSI
	Razorbill	0.878 - 0.954	Unable to conclude No AEoSI
Forth Islands SPA	Gannet	0.626 - 0.713	AEoSI
	Kittiwake	0.850 - 0.891	Unable to conclude No AEoSI
	Puffin	0.903 - 0.941	Unable to conclude No AEoSI
Foula SPA	Puffin	0.976 - 0.988	No AEoSI
Fowlsheugh SPA	Kittiwake	0.810 - 0.851	AEoSI
Hermaness, Saxa Vord and Valla Field SPA	Gannet	0.875 - 0.913	Unable to conclude No AEoSI
North Caithness Cliffs SPA	Kittiwake	0.847 - 0.875	AEoSI
	Puffin	0.708 - 0.810	AEoSI
North Rona and Sula Sgeir SPA	Gannet	0.978 - 0.985	No AEoSI
Noss SPA	Gannet	0.896 - 0.928	No AEoSI
St Abbs's Head to Fast Castle SPA	Kittiwake	0.867 - 0.901	Unable to conclude No AEoSI
Sule Skerry and Sule stack SPA	Gannet	0.904 - 0.927	No AEoSI
	Puffin	0.929 - 0.956	No AEoSI
Troup, Pennan and Lion's Heads SPA	Guillemot	0.784 - 0.888	AEoSI
	Kittiwake	0.935 - 0.870	AEoSI
	Razorbill	0.872 - 0.939	Unable to conclude No AEoSI
West Westray SPA	Kittiwake	0.594 - 0.668	AEoSI

* CPS used in assessment are Combined effects - XX% displacement; X% mortality for all projects excluding consented projects with a commitment to compensation or Displacement - XX% displacement; X% mortality (breeding), X% mortality (non-breeding) for all projects.

A.7.7 Individual SPA assessments (in-combination)

A.7.7.1 Buchan Ness to Collieston Coast SPA

Table A-26 PVA results for Buchan Ness to Collieston Coast SPA.

Site	Species	CPS (upper and lower impact scenarios)	Additional mortality from project alone (birds/annum)	Adverse Effect on Site Integratory conclusion
Buchan Ness to Collieston Coast SPA	Guillemot	0.696 - 0.840	78.96 to 141.15	AEoSI
	Kittiwake	0.862 - 0.882	3.34 – 3.99	Unable to conclude AEoSI

We conclude **AEoSI** for guillemot at Buchan Ness to Collieston Coast SPA, considering:

- the very low CPS values
- a population decline of between 16% – 30.4%
- a decrease in population growth rate of between 0.5% – 1.0%
- the favourable condition of the feature
- a 0% population change between Seabird 2000 and Seabirds Count.

We are **unable to conclude no AEoSI** for kittiwake at Buchan Ness to Collieston Coast SPA, considering:

- the low CPS values
- a population decline of between 11.8% - 13.8% (lower – upper impact scenario)
- a decrease in population growth rate of between 0.3% - 0.4% (lower – upper impact scenario)
- the unfavourable condition of the feature
- a 19% population decline between Seabird 2000 and Seabirds Count.

A.7.7.2 Calf of Eday SPA

Table A-27 PVA results for Calf of Eday SPA.

Site	Species	CPS (upper and lower impact scenarios)	Additional mortality from project alone (birds/annum)	Adverse Effect on Site Integratory conclusion
Calf of Eday SPA	Guillemot	0.878 - 0.940	3.03 to 5.42	Unable to conclude no AEoSI

We are **unable to conclude no AEoSI** for guillemot at Calf of Eday SPA, considering:

- the low CPS values
- a population decline of up to 6% - 12.2% (lower – upper impact scenario)
- a decrease in population growth rate of up to 0.2% - 0.4% (lower – upper impact scenario)
- the unfavourable condition of the feature
- a 34% population increase between Seabird 2000 and Seabirds Count.

However, despite this, considering the counterfactuals presented we are unable to conclude no AEoSI.

A.7.7.3 Copinsay SPA

Table A-28 PVA results for Copinsay SPA.

Site	Species	CPS (upper and lower impact scenarios)	Additional mortality from project alone (birds/annum)	Adverse Effect on Site Integratory conclusion
Copinsay SPA	Guillemot	0.790 - 0.876	24.41 to 28.85	AEoSI

We conclude **AEoSI** for guillemot at Copinsay SPA, considering:

- the very low CPS values
- a population decline of up to 12.4% - 21% (lower – upper impact scenario)
- a decrease in population growth rate of up to 0.4% - 0.7% (lower – upper impact scenario)
- the unfavourable condition of the feature
- 1% population decline between Seabird 2000 and Seabirds Count
- the recent impact of HPAI resulting in a recent 56% decline in population (Tremlett 2023¹⁴)

A.7.7.4 East Caithness Cliffs SPA

Table A-29 PVA results for East Caithness Cliffs SPA.

Site	Species	CPS (upper and lower impact scenarios)	Additional mortality from project alone (birds/annum)	Adverse Effect on Site Integratory conclusion
East Caithness Cliffs SPA	Kittiwake	0.583 - 0.677	4.81 to 5.65	AEoSI
	Razorbill	0.703 - 0.836	0.25 to 0.75	AEoSI

We conclude **AEoSI** for kittiwake at East Caithness Cliffs SPA, considering:

- the very low CPS values
- a population decline of up to 32.3% - 41.7% (lower – upper impact scenario)
- a decrease in population growth rate of up to 1.1% - 1.5% (lower – upper impact scenario)
- favourable condition of the feature
- a 39% population decline between Seabird 2000 and Seabirds Count.

We conclude **AEoSI** for razorbill at East Caithness Cliffs SPA, considering:

- the very low CPS values
- a population decline of between 16.4% - 29.7% (lower – upper impact scenario)
- a decrease in population growth rate of between 0.5% - 1.0% (lower – upper impact scenario)
- favourable condition of the feature
- 69% population increase between Seabird 2000 and the Seabirds Count of. However, despite this, we consider that the very low counterfactual values will result in AEoSI.

A.7.7.5 Fair Isle SPA

¹⁴ Tremlett et al 2024 - UK seabird colony counts in 2023 following the 2021-22 outbreak of Highly Pathogenic Avian Influenza. RSPB Research Report 76

Table A-30 PVA results for Fair Isle SPA.

Site	Species	CPS (upper and lower impact scenarios)	Additional mortality from project alone (birds/annum)	Adverse Effect on Site Integratory conclusion
Fair Isle SPA	Gannet	0.923 - 0.946	1.49 to 1.83	No AEOI
	Guillemot	0.920 - 0.959	17.06 to 30.50	No AEOI
	Puffin	0.979 - 0.989	0.66 to 1.11	No AEOI
	Razorbill	0.878 - 0.954	0.19 to 0.34	Unable to conclude no AEOI

We are **unable to conclude no AEOI** for razorbill at Fair Isle SPA considering:

- the low CPS values for the high displacement scenario with and without Berwick Bank
- a population decline of between 4.6% - 12.2% (lower – upper impact scenario)
- a decrease in population growth rate of between 0.1% - 0.4% (lower – upper impact scenario)
- the unfavourable condition of the feature.
- a 47% decrease in population between Seabird 2000 and Seabirds Count

A.7.7.6 Forth Islands SPA

Table A-31 PVA results for Forth Islands SPA.

Site	Species	CPS (upper and lower impact scenarios)	Additional mortality from project alone (birds/annum)	Adverse Effect on Site Integratory conclusion
Forth Islands SPA	Gannet	0.626 - 0.713	16.60 to 20.73	AEOI
	Kittiwake	0.850 - 0.891	0.48 to 0.57	Unable to conclude no AEOI
	Puffin	0.903 - 0.941	4.14 to 7.01	Unable to conclude no AEOI

We conclude **AEOI** for gannet at Forth Islands SPA considering:

- the very low CPS values both with and without Berwick Bank
- a population decline of up to 28.7% - 37.4% (lower – upper impact scenario)
- a decrease in population growth rate of up to 0.9% - 1.3% (lower – upper impact scenario)
- favourable condition of the feature
- a 57% increase in population between Seabird 2000 and Seabirds Count, but a 32% decline resulting from HPAI (Tremlett 2023¹)

We are **unable to conclude no AEOI** for kittiwake at Forth Islands SPA considering:

- the low CPS values both with and without Berwick Bank
- a population decline of up to 10.9% - 15.0% (lower – upper impact scenario)
- a decrease in population growth rate of up to 0.3% - 0.4% (lower – upper impact scenario)
- unfavourable condition of the feature
- a 22% increase in population between Seabird 2000 and Seabirds Count

We are **unable to conclude no AEOI** for puffin at Forth Islands SPA considering:

- the low CPS values both with and without Berwick Bank
- a population decline of up to 5.9% - 9.7% (lower – upper impact scenario)

- a decrease in population growth rate of up to 0.2% - 0.3% (lower – upper impact scenario)
- favourable condition of the feature
- a 40% decrease in population between Seabird 2000 and Seabirds Count

A.7.7.7 Foula SPA

Table A-32 PVA results for Foula SPA.

Site	Species	CPS (upper and lower impact scenarios)	Additional mortality from project alone (birds/annum)	Adverse Effect on Site Integratory conclusion
Foula SPA	Puffin	0.976 - 0.988	0.20 to 0.35	No AEoSI

We conclude **No AEoSI** for gannet at Foula SPA.

A.7.7.8 Fowlsheugh SPA

Table A-33 PVA results for Fowlsheugh SPA.

Site	Species	CPS (upper and lower impact scenarios)	Additional mortality from project alone (birds/annum)	Adverse Effect on Site Integratory conclusion
Fowlsheugh SPA	Kittiwake	0.810 - 0.851	2.25 to 2.68	AEoSI

We conclude **AEoSI** for kittiwake at Fowlsheugh SPA considering:

- the low CPS
- a population decline of up to 14.9% - 19.0% (lower – upper impact scenario)
- a decrease in population growth rate of up to 0.4% - 0.6% (lower – upper impact scenario)
- the unfavourable condition of the feature
- a 51% decrease in population between Seabird 2000 and Seabirds Count

A.7.7.9 Hermaness, Saxa Vord and Valla Field SPA

Table A-34 PVA results for Hermaness, Saxa Vord and Valla Field SPA.

Site	Species	CPS (upper and lower impact scenarios)	Additional mortality from project alone (birds/annum)	Adverse Effect on Site Integratory conclusion
Hermaness, Saxa Vord and Valla Field SPA	Gannet	0.875 - 0.913	2.84 to 3.68	Unable to conclude No AEoSI

We are **unable to conclude no AEoSI** for gannet at Hermaness SPA considering:

- the low CPS
- a population decline of between 8.7% - 12.5% (lower – upper impact scenario)
- a decrease in population growth rate of between 0.3% - 0.4% (lower – upper impact scenario)
- the favourable condition of the feature
- a 89% increase in population between Seabird 2000 and Seabirds Count

A.7.7.10 North Caithness Cliffs SPA

Table A-35 PVA results for North Caithness Cliffs SPA.

Site	Species	CPS (upper and lower impact scenarios)	Additional mortality from project alone (birds/annum)	Adverse Effect on Site Integratory conclusion
North Caithness Cliffs SPA	Kittiwake	0.847 - 0.875	0.81 to 0.94	AEoSI
	Puffin	0.708 - 0.810	0.34 to 0.56	AEoSI

We conclude **AEoSI** for kittiwake at North Caithness Cliffs SPA, considering:

- the very low CPS
- a population decline of up to 12.5% - 15.3% (lower – upper impact scenario)
- a decrease in population growth rate of up to 0.4% - 0.5% (lower – upper impact scenario)
- the unfavourable condition of the feature
- a 45% decline in the population between Seabird 2000 and Seabirds Count.

We conclude **AEoSI** for puffin at North Caithness Cliffs SPA, considering:

- the very low CPS
- a population decline of up to 19.0% - 29.2% (lower – upper impact scenario)
- a decrease in population growth rate of up to 0.6% - 1.0% (lower – upper impact scenario)
- the unfavourable condition of the feature
- a 56% decline in the population between Seabird 2000 and Seabirds Count.

A.7.7.11 North Rona and Sula Sgeir SPA

Table A-36 PVA results for North Rona and Sula Sgeir SPA.

Site	Species	CPS (upper and lower impact scenarios)	Additional mortality from project alone (birds/annum)	Adverse Effect on Site Integratory conclusion
North Rona and Sula Sgeir SPA	Gannet	0.978 - 0.985	0.80 to 0.83	No AEoSI

We conclude **no AEoSI** for gannet at North Rona and Sula Sgeir SPA.

A.7.7.12 Noss SPA

Table A-37 PVA results for Noss SPA.

Site	Species	CPS (upper and lower impact scenarios)	Additional mortality from project alone (birds/annum)	Adverse Effect on Site Integratory conclusion
Noss SPA	Gannet	0.896 - 0.928	2.30 to 2.38	No AEoSI

We conclude **no AEoSI** for gannet at Noss SPA.

A.7.7.13 St Abb's Head to Fast Castle SPA

Table A-38 PVA results for St Abb's Head to Fast Castle SPA.

Site	Species	CPS (upper and lower impact scenarios)	Additional mortality from project alone (birds/annum)	Adverse Effect on Site Integratory conclusion
St Abbs's Head to Fast Castle SPA	Kittiwake	0.867 - 0.901	0.44 to 0.52	Unable to conclude No AEoSI

We are **unable to conclude no AEoSI** for kittiwake at St Abb's Head to Fast Castle SPA considering:

- the low CPS
- a population decline of up to 9.9% - 13.3% (lower – upper impact scenario)
- a decrease in population growth rate of up to 0.3% - 0.4% (lower – upper impact scenario)
- the unfavourable condition of the feature
- a 68% decrease in population between Seabird 2000 and Seabirds Count

A.7.7.14 Sule Skerry and Sule Stack SPA

Table A-39 PVA results for Sule Skerry and Sule Stack SPA.

Site	Species	CPS (upper and lower impact scenarios)	Additional mortality from project alone (birds/annum)	Adverse Effect on Site Integratory conclusion
Sule Skerry and Sule Stack SPA	Gannet	0.904 - 0.927	1.08 to 1.11	No AEoSI
	Puffin	0.929 - 0.956	2.35 to 3.92	No AEoSI

We conclude **no AEoSI** for gannet at Sule Skerry and Sule Stack SPA.

We conclude **no AEoSI** for puffin at Sule Skerry and Sule Stack SPA.

A.7.7.15 Troup, Pennan and Lion's Heads SPA

Table A-40 PVA results for Troup, Pennan and Lion's Heads SPA.

Site	Species	CPS (upper and lower impact scenarios)	Additional mortality from project alone (birds/annum)	Adverse Effect on Site Integratory conclusion
Troup, Pennan and Lion's Heads SPA	Guillemot	0.784 - 0.888	67.85 to 121.31	AEoSI
	Kittiwake	0.935 - 0.870	3.30 to 3.93	AEoSI
	Razorbill	0.872 - 0.939	1.37 to 2.33	Unable to conclude No AEoSI

We conclude **AEoSI** for guillemot at Troup, Pennan and Lion's Heads SPA, considering:

- the very low CPS
- a population decline of up to 11.2% - 21.6% (lower – upper impact scenario)
- a decrease in population growth rate of up to 0.3% - 0.7% (lower – upper impact scenario)
- the unfavourable condition of the feature
- a 50% decline in population between Seabird 2000 and Seabirds Count

We conclude **AEoSI** for kittiwake at Troup, Pennan and Lion's Heads SPA, considering:

- the low CPS
- a population decline of up to 13.0% - 16.5% (lower – upper impact scenario)
- a decrease in population growth rate of up to 0.4% - 0.5% (lower – upper impact scenario)
- the unfavourable condition of the feature
- a 44% decline in population between Seabird 2000 and Seabirds Count

We are **unable to conclude no AEoSI** for razorbill at Troup, Pennan and Lion's Heads SPA considering:

- the low CPS
- a population decline of up to 6.1% - 12.8% (lower – upper impact scenario)
- a decrease in population growth rate of up to 0.2% - 0.4% (lower – upper impact scenario)
- the favourable condition of the feature.
- a 9% decline in population between Seabird 2000 and Seabirds Count

A.7.7.16 West Westray SPA

Table A-41 PVA results for West Westray SPA.

Site	Species	CPS (upper and lower impact scenarios)	Additional mortality from project alone (birds/annum)	Adverse Effect on Site Integratory conclusion
West Westray SPA	Kittiwake	0.594 - 0.668	0.53 to 0.59	AEoSI

We conclude **AEoSI** for kittiwake at West Westray SPA, considering:

- the very low CPS
- a population decline of up to 33.2% - 40.6% (lower – upper impact scenario)
- a decrease in population growth rate of up to 1.1% - 1.4% (lower – upper impact scenario)
- the unfavourable declining condition of the feature
- a 92% decline in population between Seabird 2000 and Seabirds Count

A.7.8 Outer Firth of Forth and St Andrews Bay Complex (OFFSABC) marine SPA assessment

Our assessment of impacts to the OFFSABC marine SPA breeding seabird qualifying features was undertaken with respect to the functionally linked breeding colony SPAs.¹⁵ The assessed SPAs/features are listed in the table below along with our colony SPA conclusions for AEoSI.

Table A-42 Summary of NatureScot conclusions for the OFFSABC marine SPA.

SPA	Species	Colony SPA conclusion
Buchan Ness to Collieston Coast SPA	Kittiwake	Unable to conclude no AEoSI
	Guillemot	AEoSI
Forth Islands SPA	Gannet	AEoSI
	Kittiwake	Unable to conclude no AEoSI
	Puffin	Unable to conclude no AEoSI
Fowlsheugh SPA	Kittiwake	AEoSI
St Abbs Head to Fast Castle SPA	Kittiwake	Unable to conclude no AEoSI
Troup, Pennan and Lion's Heads SPA	Guillemot	AEoSI
	Kittiwake	AEoSI
	Razorbill	Unable to conclude no AEoSI

A.7.9 Great black-back gull assessment

The Applicant states in paragraph 6.2.20.7 of the RIAA that the developments impact would be less than a single bird. However, as an example the impact for Copinsay is modelled as 0.04 birds per annum from collision, which over a 35-year period means 1.4 birds would be killed.

¹⁵ Conservation and Management Advice (2022) Outer Firth of Forth and St Andrews Bay Complex Special Protection Area (SPA)

As highlighted within our EIA advice above (section A.4.8.1), there is an issue in the way the Applicant has undertaken apportioning for great black-backed gull, **this has implications for making conclusions and impacts will need to be reassessed.**

The Applicant has stated that due to the small, predicted impacts PVAs were not deemed necessary. However, we request that when this is reassessed, that PVAs are run for the sites that reach the 0.02% threshold for change in survival. This is to ensure consistent approaches across all applications. Whilst impacts may be small, the populations impacted by these impacts are small, so the potential effect is proportionally large. To note, this was highlighted in our pre-application advice on 24 June 2025.

A.7.10 Great skua assessment

As highlighted within the EIA advice the applicant has taken an unusual approach to calculating age ratio. We have based our conclusions upon the results as presented in the application, as the results are expected to be more precautionary than the standard approach. However, we do not recommend this approach as the biological relevance of non-breeding season age ratios to the breeding season is not clear.

The applicant states in paragraph 6.2.19.7 that no sites reach the 0.02% change in survival so no PVAs were undertaken. However, in table 6.108 the entry for Hoy SPA change in survival is 0.019, this is an example where the applicant has shown the data to 3dp and we would expect it to be rounded to 2dp as the threshold to undertake a PVA is to 2dp. Therefore, Hoy SPA would have reached the 0.02 survival change threshold and a PVA should have been run. However, as highlighted in the EIA advice due to an error in calculating age ratio the applicant's assessment is more precautionary so we can accept the outcomes of **no AEoSI** for all sites assessed.

A.7.11 Manx shearwater and storm petrel assessment

The applicant highlights that there were low numbers of storm petrels and Manx shearwaters recorded during the DAS campaign, however, these species are active during the night, and a higher number of birds may be present outside the recording period when the DAS were undertaken.

The applicant summarises research that has tracked European storm petrels from Shetland and Manx shearwater foraging behaviour which highlights that these species are unlikely to be present within the development area at night in high numbers.

The applicant does not provide a detailed plan of lighting during the construction, O&M and decommissioning phases of the development, however, based on the above it is unlikely this will impact shearwaters and storm petrels, so we conclude **No AEoSI**.

A.7.12 Northern fulmar assessment

The applicant has undertaken a qualitative assessment when considering the developments potential impact on northern fulmars, this was advised by NatureScot. They undertook a literature review to highlight the potential distributional response impacts of offshore windfarms.

Within this the applicant highlights Bradbury et al, (2014)¹⁶. Mapping Seabird Sensitivity to Offshore Wind farms. We do not recommend the use of this paper in Scotland as it was undertaken in an English context. We recommend the use of Wade et al, (2016)¹⁷, table 7 of the supplementary material of this report provide a vulnerability scoring for seabird species in a Scottish context. The use of this report instead of Bradbury would not affect the outcome of the conclusions.

We conclude **no AEoSI** for northern fulmar.

A.7.13 Disturbance and displacement to birds from vessel movements – marine SPAs

At the time of the Application, the ports to be used during construction, operation and maintenance and decommissioning phases are unknown. This means that this potential impact has not been assessed, as the port(s) and the route vessels will take becomes known this should be discussed with NatureScot so that any potential impact can be assessed.

A.7.14 Assessment of other impact pathways

This advice relates to impact pathways not covered above. Embedded mitigation should be implemented for all pathways where it has been proposed.

Table A-43 Assessment of other impact pathways occurring during all phases for offshore ornithology.

Impact pathway and phase	NatureScot conclusion
Direct temporary habitat loss (offshore export cable corridor) (construction and decommissioning);	No AEoSI for any SPA features assessed
Disturbance and Displacement to Birds from Vessel Movements (construction, O&M and decommissioning)	No AEoSI for any SPA features assessed, noting that this is for within the OAA. A port has not been selected yet for construction, O&M and decommissioning so vessel movement from a port to the site has not been assessed and will need to be once a port is known.
Disturbance to Prey Species and their Habitat	No AEoSI for any SPA features assessed
Light pollution (OAA) (construction, O&M and decommissioning)	No AEoSI for any SPA features assessed
Entanglement with mooring lines (OAA) (O&M).	No AEoSI for any SPA features assessed
Impacts from UXO Clearance	Not assessed in the application please see note below

A.7.14.1 UXO clearance

The potential for direct impacts from Unexploded Ordnance (UXO) clearance is not discussed in the RIAA Ornithology sections. UXO clearance detonations may directly affect marine birds through injury, and indirectly impact marine birds through underwater noise, disturbance and damage to the seabed.

We note that the embedded environmental measures relating to marine mammals includes the development of a UXO management plan, and the use of “low order” techniques such as deflagration for UXO disposal, where possible and required. It is likely that these measures will also

¹⁶ Hamburg Bradbury, G., Trinder, M., Furness, B., Banks, A.N., Caldow, R.W.G. and Hume, D. (2014). *Mapping Seabird Sensitivity to Offshore Wind farms*.

¹⁷ Wade, H.M., Masden E.M., Jackson, A.C. and Furness, R.W. (2016). *Incorporating data uncertainty when estimating potential vulnerability of Scottish seabirds to marine renewable energy developments*.

mitigate the risk of direct impacts from UXO clearance for marine birds. **We therefore advise that UXO clearance mitigation measures should also consider marine birds where possible.**

A.7.14.2 Migratory species assessment

In section 6.2.26 of the RIAA the applicant lays out the approach taken for migratory species. The list of SPAs brought forward are appropriate. The applicant uses a threshold of one bird per annum to take a species forward in the assessment. It is not clear if this threshold was discussed with NatureScot prior to the assessment, however, based on the level of impact we can accept the conclusion of **no AEoSI**.

The species that had an impact higher than one individual per annum were:

- common scoter;
- goldeneye;
- widgeon;
- goosander;
- bar-tailed godwit;
- lapwing;
- redshank; and
- dunlin.

For all of these species the applicant states that the annual or seasonal impact does not exceed a 0.02% change in survival, so we accept that there is **no AEoSI** for any migratory bird species.

A.7.14.3 Intertidal assessment

The applicant states in paragraph 6.3.2.1:

‘As identified during screening, Buchan Ness to Collieston Coast SPA boundary overlaps with the offshore export cable corridor and is located approximately 8.31km from Scotstown and 4.62km from Lunderton landfall locations.’

However, when comparing the map provided in Figure 12.1 (offshore and intertidal ornithology study area) and the location of Buchan Ness to Collieston Coast SPA it is not clear where the overlap occurs. **We request that the Applicant provide a more detailed map of where the overlap occur.**

We have undertaken the assessment under the assumption that there is no direct overlap with the export cable corridor and any protected site. Based on this, our conclusions in regard to intertidal ornithology is found in Table A-44 below. This advice may change once the above information from the Applicant is provided.

Table A-44 Qualitative assessment of impact pathways occurring during all phases for intertidal ornithology

Impact pathway and phase	NatureScot conclusion
Direct temporary disturbance and displacement (offshore export cable corridor and landfall) (construction and decommissioning).	No AEoSI for any SPA features assessed

NATURESCOT ADVICE ON MARRAMWIND OFFSHORE WINDFARM

Appendix B Marine mammals

Marine mammals are considered in Chapter 11: Marine Mammals, Chapter 8: Underwater Noise, Chapter 33: Cumulative Effects Assessment, and the following relevant supporting appendices:

- Appendix 11.1: Marine Mammal Baseline Technical Report
- Appendix 11.2: Population Distribution Modelling
- Appendix 8.1: Underwater Noise Modelling Assessment
- Appendix 33.3: Marine Mammals CEA
- Appendix 5.2: Commitments Register
- Volume 4: Outline Marine Mammal Mitigation Protocol
- Volume 4: Outline Piling Strategy
- Nature Conservation Marine Protected Area Assessment

We note that basking sharks have been considered in Chapter 13: Fish Ecology.

B.1 EIA Summary

The assessment for marine mammals concludes no significant impacts alone or cumulatively. However, we raise issues with magnitude and sensitivity scoring in our advice below, and as such we disagree with the outcome of the assessment. **Instead, we conclude significant impacts for disturbance from piling, both for the proposal alone and cumulatively for harbour porpoise, minke whale, white-beaked dolphin, bottlenose dolphin Coastal East Scotland (CES) and Risso's dolphin; and significant impacts cumulatively for bottlenose dolphin Greater North Sea (GNS).**

As such, should Scottish Ministers grant consent, we advise that:

- **The Applicant must consider the implications of underwater noise from piling further, through the development of the Piling Strategy and Marine Mammal Mitigation Protocol (MMMP) post-consent, for all species considered in the EIA Report.**
- **Similarly, the Applicant must consider the impacts from auditory injury and disturbance from UXO clearance events further in the MMMP post-consent and that further mitigation measures are defined and secured. If large UXOs are identified, we recommend further consultation with ourselves and Marine Directorate to agree and finalise any mitigation, which may include seasonal restrictions.**
- **A monitoring proposal to validate the EIA Report predictions and better understand the likelihood of impacts for disturbance from piling and other impacts maybe required, particularly as floating wind developments are a novel technology and depending on the potential changes between this assessed PDE and a subsequent revised and assessed build out design.**

For the Southern Trench NCMPA, we advise that:

- **A cumulative assessment for disturbance from underwater noise generating activities is carried out for the Southern Trench NCMPA as this has not been adequately assessed.**
- **Due to potential cumulative auditory injury from piling to minke whale and auditory injury from UXO clearance, these activities may hinder the achievement of the site Conservation Objectives for minke whale.**

- To reduce uncertainty around these impacts the design parameters could be refined further, in order to inform and optimise the Piling Strategy. For instance, this could include piling outside of peak minke whale season for certain locations in close proximity to the NCMPA.
- Based on the worst-case scenario auditory injury impact ranges outlined within Table 5.7, seasonal restrictions may need to be implemented in relation to UXO clearance within the Southern Trench NCMPA.
- The Applicant contributes to the strategic minke whale monitoring partnership study focusing on broadband acoustics that is already proposed in the Southern Trench NCMPA.

Furthermore, there are various aspects of the assessment where we request clarification and/or additional information, including:

- Confirmation that the driven pile anchor N location is considered to have the largest potential for disturbance to the bottlenose dolphin CES MU, considering it is the furthest piling location from that receptor.
- Clarification on how many days the RCP installation will take and the proposed location of the second RCP (if still part of the PDE) to ensure that the worst-case scenario and impact to the coastal population of bottlenose dolphin has been correctly defined.
- A cumulative assessment is carried out for the impacts C9 and D3 *disturbance from increased vessel presence and traffic during construction, operation and decommissioning phases*.
- What piling scenarios were used for the cumulative assessment.

B.2 RIAA Summary

We are unable to conclude no AEoSI on the bottlenose dolphin of the Moray Firth SAC from behavioural disturbance from pile driving either alone or cumulatively. **We advise that the design parameters and/or modelling should be refined further, in order to reduce precaution in the project design and impacts to the bottlenose dolphin of the Moray Firth SAC.** For example, the dose-response curve capped at 140 dB could be used, which we have accepted for bottlenose dolphin in the recent Ayre Offshore Wind Farm application.

It may be that we require the Applicant to contribute to strategic post-consent monitoring of the Moray Firth SAC bottlenose dolphin populations as part of ongoing understanding of the species and their distributional and behavioural responses to marine industries development activities, if consented and the final design parameter continues to predict an AEoSI to this SAC.

B.3 Baseline characterisation

B.3.1 Study area

In Section 11.4.2 of Chapter 11, the regional marine mammal study area is defined as the species-specific Management Units (MUs) outlined by the Inter Agency Marine Mammal Working Group (IAMMWG) and the site-specific study area is defined as the Offshore Agreement Area (OAA) plus a 4 km buffer. We accept these study areas, as defined by the Applicant.

B.3.2 Digital Aerial Surveys (DAS)

We are content with the site-specific survey area and length of time over which DAS baseline data were collected (April 2021 – March 2023). We note that no DAS were conducted in four of the 24 months (Nov 2021, Feb/June/Dec 2022 and Jan 2023), however, surveys were instead conducted twice in July/Nov 2022 and March 2023, and three times in Feb 2023.

We note the site-specific surveys detected the following species within the development area:

- 328 harbour porpoises (76.28% of sightings);
- 88 white-beaked dolphins (20.47% of sightings);
- 7 Risso's dolphins (1.63% of sightings); and
- 7 grey seals (1.63% of sightings).

B.3.3 Bottlenose dolphin

We acknowledge that different bottlenose densities are provided for the CES MU within 2 km of the coastline (0.116 individuals/km²) and the GNS MU (0.0298 individuals/km²), which we support.

B.3.4 White-beaked dolphin

We support that both the SCANS-V Block NS-E (0.1775 animals/km²) and the scaled surface densities from Gilles et al. (2025; 0.416 animals/km²) are used in the assessment to reflect the high densities of the species in this offshore region.

B.3.5 Minke whale

Whilst we accept the densities proposed for assessment for minke whale, it is important to note that the minke whale density map using data from Gilles et al. (2025; Figure 9) is somewhat visually misleading, as the maximum density has been scaled to 1 whale/km², which is far greater than the maximum density from the study (>0.125 whale/km²). This then prevents the higher density areas (within the development area) being visible. However, this is an issue of presentation only and does not affect our conclusions.

B.3.6 Humpback whale

We accept that humpback whale can be qualitatively assessed until robust density data in UK waters are available, however it should be acknowledged that the species are now regularly seen off both the west and east coasts of Scotland, particularly in the winter months.

B.4 Assessment approach

B.4.1 Magnitude

We disagree with the duration categorisation used in defining magnitude whereby the impact to the receptor is negligible if the change to the receptor will last a day, low if it lasts days, medium if it's up to a year and high if it's permanent. This categorisation does not appear to be based on any scientific or biological reasoning. However, we note that this categorisation scheme does not seem to be taken through to the assessment portion of the EIA and therefore does not affect our conclusions.

Additionally, the ‘spatial extent’ of the impact should have been accounted for within the magnitude criteria.

Where we disagree with the magnitude assigned this is indicated in our advice below and in our Table B-1 and B-2.

B.4.2 Sensitivity

Value has not been included in the definition of criteria for sensitivity because “all marine mammals are considered to have a very high value” given they are listed under Annex II or under Annex IV of the Habitats Directive. However, we advise that value is consistently considered within the sensitivity criteria across other ecological receptors. Not including value/importance within the sensitivity criteria disregards the inherent reason why cetaceans and seals are given a high level of legislative protection through the Habitats Regulations and fails to fully acknowledge the potential risks to individuals and populations.

Much of the assessment is based on the outcome of a workshop (Booth and Heinis, 2018)¹⁸ which relied on expert opinion rather than empirical evidence, and which has not been peer-reviewed or published. Therefore, there is a lot of uncertainty around the sensitivity categories. Given this high level of uncertainty, we consider that the scores assigned are underestimating the sensitivity of some of the impacts and therefore the conclusions reached.

Where we disagree with the sensitivity assigned, this is indicated in our advice below in Table B-1 and B-2.

B.4.3 Significance matrix

We are increasingly noting the tendency for significance matrix tables presented in EIA Reports to be heavily weighted towards minor or negligible outcomes. This results in the conclusions reached in the impact assessment likely to be underestimating impacts. This is in addition to discrepancies with the individual sensitivity and magnitude scorings, which again are likely to underestimate impacts. We would welcome further discussion with MD-LOT as to whether there is a need for further guidance on this aspect to help developers in the preparation of their EIAs.

B.4.4 Underwater noise assessment

Overall, Appendix 8.1 Underwater Noise Modelling Assessment MarramWind Offshore Wind Farm (Volume 3) provides a detailed and transparent assessment of the underwater noise impacts using the INSPIRE (Subacoustech) model, which we are broadly content with.

The average water depth at the site is approximately 111m. However, it is acknowledged that the INSPIRE model is designed for acoustically shallow conditions, typically < 100m. The report notes that the INSPIRE model has previously been extrapolated beyond measured conditions (e.g. for larger pile diameters and higher hammer energies) with good alignment with empirical data, but it is important to highlight that extrapolation for greater water depth has not previously been validated and there is generally better attenuation of sound in greater water depths (i.e. sound travels further). Given that MarramWind is deeper than the models intended design, this does

¹⁸ Booth, C.G, Heinis, F & Harwood J. Updating the Interim PCoD Model: Workshop Report - New transfer functions for the effects of disturbance on vital rates in marine mammal species. 2018. Report Code SMRUC-BEI-2018-011, submitted to the Department for Business, Energy and Industrial Strategy (BEIS), February 2019 (unpublished).

introduce additional uncertainty, and we provide further advice under monitoring in our Section B.8 below.

Southall *et al.* (2019)¹⁹ criteria for assessing impacts of underwater noise on marine mammals have been used in this assessment, which was advised by NatureScot at the time. Whilst we accept its use in this instance, we advise that we have now adopted the NMFS (2024)²⁰ thresholds going forward.

B.4.5 Construction period

As the construction of the Project will be in phases, the construction period is prolonged. Our assessment and advice are based on the understanding that a worst-case scenario of four discrete years of piling is expected within the 12-year construction period with one instance of consecutive years of piling occurring.

This phased approach will likely mean that the data and assessments used for later phases will be old by the time it begins construction. We also highlight that in some instances, information is currently lacking to enable an adequate assessment of the in-combination impact of the sequential phased approach across the 12-year construction period. This is due to the limited information available on proposed plans / projects that may coincide with the later phases. Therefore, we advise that updates to the assessment could be required if this phased approach is used. **Should additional years of piling or more intense periods of piling (e.g. further consecutive years) be required, this may also require re-assessment.**

B.5 Impact assessment

For impacts which have the potential to result in auditory injury, the Applicant has deemed the sensitivity of receptors to be lower than we would expect due to the apparent hearing sensitivities of the receptors falling outside the frequencies of the noise sources being assessed. It is asserted that if the hearing threshold of the species is permanently altered, this will not affect individual vital rates. Our understanding of hearing sensitivities in most species is limited, and the importance of frequencies outside the apparent sensitive areas is relatively unknown. We cannot assume that if only a small region of an animal's hearing is damaged it is unimportant – that region may have a particular function that we are not aware of. Due to the number of uncertainties in the impact of auditory injury to individuals, we do not agree with this conclusion.

As above, much of the assessment is based on the outcome of a workshop (Booth and Heinis, 2018), which relied on expert opinion rather than empirical evidence, and which has not been peer-reviewed or published. Therefore, there is a lot of uncertainty around the sensitivity categories.

Additionally, it is an offence in Scottish inshore waters to injure any animal belonging to a European Protected Species. Our position is that any auditory injury, even partial and not resulting in full deafness of an individual, meets the criteria of injury.

¹⁹ Southall, B. L., Finneran, J. J., Reichmuth, C., Nachtigall, P. E., Ketten, D. R., Bowles, A. E., Ellison, W. T., Nowacek, D. P., & Tyack, P. L. (2019). Marine Mammal Noise Exposure Criteria: Updated Scientific Recommendations for Residual Hearing Effects. *Aquatic Mammals*, 45(2), 125-232.

²⁰ NMFS. (2024). *Update to: Technical Guidance for Assessing the Effects of Anthropogenic Sound on Marine Mammal Hearing (v3): Underwater and In-Air Criteria for Onset of Auditory Injury and Temporary Threshold Shifts*.

This leads to the sensitivity for all marine mammal species being given a revised score of 'high' for all impacts that may result in auditory injury and is relevant for the EIA, MPA assessment and the RIAA.

This is reflected in Table B-1, which provides a summary of our conclusions for each impact for the project alone, where our scoring differs to the Applicant.

Table B-1. MarramWind EIA Report conclusions and NatureScot revised scores based on our assessment for the project alone. Cells are shaded where our conclusions differ and significant conclusions are in bold. Codes: CD - common dolphin; BND - bottlenose dolphin; GS - grey seal; MW – minke whale; RD – Risso’s dolphin; WBD – white-beaked dolphin; HP – harbour porpoise; HS – harbour seal; CES – Coastal East Scotland. *For UXO clearance, mitigation measures have not been included within the EIA assessment to show that they will reduce the impact to acceptable levels, however, we are content for this to be considered post-consent.

		EIA Report assessment conclusions			NatureScot revised conclusions		
Effect	Receptor	Magnitude	Sensitivity	Significance	Magnitude	Sensitivity	Significance
C1 Auditory injury from pre-construction surveys	All	Negligible	Low	Negligible	Negligible	High	Negligible
C2 Auditory injury from piling	All	Low/Negligible	Low	Negligible	Low	High	Minor
C3 Underwater noise from other construction activities	All	Negligible	Low/Medium	Negligible	Negligible	High	Negligible
C5 Disturbance from increased underwater noise during pre-construction	All	Low/Negligible	Low	Negligible	Low	Medium	Minor
C6 Disturbance from increased underwater noise during installation of driven piles	HP	Low	Low	Negligible	Medium	Medium	Moderate
	MW	Low	Low	Negligible	Medium	Medium	Moderate
	BND (CES)	Med	Low	Minor	Medium	Medium	Moderate
	WBD	Med	Low	Minor	Medium	Medium	Moderate
	RD	Med	Low	Minor	Medium	Medium	Moderate
	All others	Low	Low	Negligible	Low	Medium	Minor
C9 and D3 Disturbance from vessels	All	Low	Low	Negligible	Low	Medium	Minor
C10 Injury from UXO clearance	WSD, CD, HS	Negligible	Low	Negligible	*	High	*
	MW, humpback	Low	Medium	Minor	*	High	*
	All others	Low	Low	Negligible	*	High	*
O6 Increased underwater noise for example operational noise and mooring noise	MW, humpback	Medium	Negligible	Negligible	Medium	Low	Minor
	All others	Medium	Low	Minor	Medium	Low	Minor

B.5.1 Impact C1 – Auditory injury from increased underwater noise during pre-construction surveys

Marine mammal receptor sensitivity is scored as low for sub-bottom profiler (SBP), ultra-high resolution seismic (UHRS) and ultra-short baseline (USBL). As we advise above, this should be scored as high.

As the embedded mitigation measures follow JNCC guidance, we agree with the Applicant's conclusion of **negligible** which is **not significant in EIA terms**.

B.5.2 Impact C2 – Auditory injury from increased underwater noise during installation of driven piles

We disagree with Section 11.9.3.2, where the Applicant underestimates the sensitivity of marine mammals to hearing threshold change, as per our advice above (Section B.5).

Moreover, we strongly disagree with the statement: “Furthermore, a PTS of 6–18dB within this narrow frequency band is unlikely to significantly impair the survival or reproductive capacity of affected individuals (Kastelein *et al.*, 2017).” Not only does this research paper not state this, but it also emphasises the possible negative impacts of auditory injury on individual welfare and survivability, which directly contradicts the Applicant's statement.

Regardless, we accept that risk of instantaneous auditory injury (SPL_{peak}) only occurs within mitigable distances and will be avoided with actions detailed in the MMMP.

We note that the ranges for cumulative auditory injury (SEL_{cum}) are greater, and result in larger numbers of animals being affected (Table 11.23). While these lead to low overall percentages of MU populations affected, it still results in impacts to hundreds of animals. As such, we consider that sensitivity should be scored as high.

Using high sensitivity to auditory injury from pile driving results in minor significance of impact. Considering the embedded mitigation measures, we support this conclusion of **minor** which is **not significant in EIA terms**.

B.5.3 Impact C3 – Auditory injury from increased underwater noise during other construction activities

As above, we consider that the sensitivity should be scored as high. However, this change does not affect the Applicant's conclusion of **negligible** which is **not significant in EIA terms**.

B.5.4 Impact C5 – Disturbance from increased underwater noise during pre-construction surveys

We consider that sensitivity should be scored as medium.

For magnitude assessment, we appreciate the number of individuals with the potential to be disturbed being calculated using the SCANS density estimates and the site-specific DAS surveys (Gilles *et al.*, 2023; 2025) alongside both the percentage of the reference population using both the UK and full MU estimates. We support the magnitude scoring of low.

Using an updated sensitivity of medium, the significance of impact would remain minor. We therefore support the Applicant's conclusion of **minor** which is **not significant in EIA terms**.

B.5.5 Impact C6 – Disturbance from increased underwater noise during installation of driven piles

Section 4.6.5.7 of the Project Description (Chapter 4, Volume 1) states that “up to two piling events occurring simultaneously at WTG locations (or at WTG and offshore substation locations) are considered within the design envelope. However, no concurrent piling of offshore substation

foundations is proposed". As such, the Applicant has not estimated the numbers of disturbed animals for concurrent project-alone piling, which would likely increase these values significantly. If the project description changes and concurrent piling is required, then **concurrent project-alone piling must be presented at that stage.**

We accept the dose-response method for calculating disturbance for cetaceans. However, we disagree with the sensitivity scores for cetacean species for piling disturbance and advise that all species should be medium.

With the values provided for single worst-case piles, and the percentages of relevant UK MUs proposed to be disturbed, magnitude scores should also be revised to medium for harbour porpoise and minke whale.

For common dolphin, humpback whale, Atlantic white-sided dolphin, and bottlenose dolphin (GNS MU), the changes to sensitivity result in minor significance which is **not significant in EIA terms**. Changing both sensitivity and magnitude scores to reflect vulnerability to disturbance and the percentages of UK MUs calculated to be disturbed **results in a moderate significance for harbour porpoise, minke whale, white-beaked dolphin, bottlenose dolphin CES and Risso's dolphin**, which is **significant in EIA terms**.

The Applicant must consider the implications of our revised conclusions further, through the development of the Piling Strategy and Marine Mammal Mitigation Protocol (MMMP) with updated assessments, post-consent, to identify reductions to the predicted impacts. Given these predicted impacts, we advise that monitoring to validate the EIA Report predictions and better understand the likelihood of these impacts may be required.

B.5.5.1 Bottlenose dolphin CES

Section 11.9.7.39 states that the OSP north location was overlain on the bottlenose dolphin density surface from Gilles *et al.* (2025). However, in Table 11.32, the numbers quoted (and the worst-case scenario for the CES MU) appears to be the southern RCP, due to its location closer to the coast (as per Figure 11.4). Moreover, when assessing disturbance on the CES population, the modelled impact ranges from the driven pile anchor N location have been used. **We request confirmation that the driven pile anchor N location is considered to have the largest potential for disturbance considering it is the furthest location from the MU.**

We agree that if the maximum duration of piling for the RCP locations is two days, then the impact on the coastal population should be based on the installation within the Array Area instead, noting our comments above around whether the offshore substation north location has the largest potential for disturbance for the CES MU. However, Table 11.9 in Chapter 11 contradicts this and outlines the maximum piling days for both RCPs is approximately 8 days. It is not clear exactly where the second RCP could be placed or if it is still included in the design envelope (Paragraph 3.3.2.1 of Appendix 8.1 discounts the potential for a second RCP) and what duration of installation is expected, therefore the impact from the RCP installation has not been fully outlined.

We request clarification on how many days the RCP installation will take and the proposed location of the second RCP (if still part of the PDE) to ensure that the worst-case scenario and impact to the coastal population has been fully recognised.

B.5.6 Impact C9 and D3 – Disturbance from increased vessel presence and traffic

We advise that the sensitivity for all species is scored as medium, not low. In particular, the assessment of sensitivity of harbour porpoise to vessel movements is contradictory. We do not accept the assertion that sensitivity is low due to porpoises continuing to be widespread and frequently recorded across the North Sea, after including many examples of harbour porpoises avoiding vessels.

For magnitude, we do not agree that Temporary Threshold Shift (TTS)-onset should have been used as a proxy for disturbance, as this is very context specific and likely underestimates the potential for disturbance on species screened in for assessment. However, we agree with the conclusion of low magnitude.

Based on our updated sensitivity of medium, the significance of impact remains minor. We support the conclusion of **minor** which is **not significant in EIA terms**.

Once ports and harbours have been selected, we recommend that a qualitative assessment of disturbance from specific routes to these harbours is included as an appendix to the VMNSP.

B.5.7 Impact C10 – Auditory injury from UXO clearance

Sensitivity is scored as low for UXO clearance. As above, this should be scored as high.

We do not agree with the magnitude scorings. Using the worst-case scenario impact ranges for auditory injury there is an impact range of 12 km for low frequency (LF), 880 m for high frequency (HF), 15 km for very high frequency (VHF) and 3 km for phocid carnivores in water (PCW). The conclusion of the assessment is only accounting for the percentage of the population affected, but the size of the impact range is substantial and the number of animals with the potential for auditory injury is high.

We note that an MMMP has been submitted alongside the EIA identifying embedded and additional mitigation measures for implementation of UXO clearance work however, this has not been included within the EIA assessment to show that the identified mitigation measures will reduce the impact to acceptable levels. We would expect that the number of animals with the potential for auditory injury post-mitigation to be provided to understand the mitigated level of impact.

However, we accept that full mitigation measures for auditory injury from UXO clearance can be considered post-consent when more information is known on the exact number and size of the UXOs that will need to be cleared. Please note our preference and recommendation for low-order deflagration as the primary method of disposal, in line with UK and Scottish Government guidance. Low-order deflagration has been successfully concluded at another wind farm in Scottish waters²¹ as a viable method for reducing sound levels and impact ranges.

The Applicant will need to consider the implications of UXO clearance impacts on marine mammals further, through the development of the Marine Mammal Mitigation Protocol (MMMP) post-consent and the UXO specific licencing process, for all species considered in the EIA Report.

In the MMMP, our advice on piling around instantaneous auditory injury has been taken out of context and applied to UXO clearance. Due to the characteristics of UXO detonation, both the SPLpeak and SELcum impact ranges should be assessed and mitigated for. Therefore, we do not

²¹ Low-order deflagration of unexploded ordnance reduces underwater noise impacts from offshore wind farm construction - <https://oceanwinds.com/wp-content/uploads/2024/05/OW-UXO-BusinessCase.pdf>

agree with the worst-case scenarios presented in Table 5.1 for LF cetaceans, which states that 2.7 km is the worst-case scenario. Based on underwater noise modelling for PTS onset using the weighted SEL, this should be 12 km.

B.5.8 Impact C11 – Disturbance from UXO clearance

It is unclear why the disturbance impact has an additional scenario compared to auditory injury i.e. it includes low order burning.

We agree sensitivity is low for single UXO detonations, but at this stage, the exact number and size of UXOs to be cleared is unknown.

The disturbance numbers for minke whale are very high using the worst-case scenario, with 2,262 individuals with the potential to be disturbed, which is 21.99% of the UK portion of the MU. However, we understand this scenario uses the 907 kg UXO, using high order clearance, which is unlikely. Moreover, we acknowledge the precaution in the modelled impact ranges.

As such, we request that the impacts from disturbance from UXO clearance events are considered more in the MMMP post-consent and that further mitigation measures are considered. If large UXOs are identified, we recommend further consultation with ourselves and Marine Directorate to agree and finalise any mitigation, which may include seasonal restrictions.

B.5.9 Impact O5 – Entanglement in lines and cables

Whilst we agree that primary entanglement is unlikely to occur, there is a risk of secondary entanglement. Overall, we accept the significance scoring of minor, which is **not significant in EIA terms**. However, considering the uncertainties of this impact, especially at a site of this scale, we advise that mitigation for removal of marine debris and discarded fishing gear that can become entangled on floating structures is routinely carried out.

B.5.10 Impact O6 – Increased underwater noise for example operational noise and mooring noise

We do not agree that the sensitivity of harbour porpoise, dolphin species and seal species should be negligible. There are many uncertainties with the project design (mooring lines, anchors, etc) and knowledge gaps on the noise created by mooring lines and the frequency of occurrence of these noises. There are limited studies on the impact to these species and none at offshore wind farms with turbines of these sizes, but there is some evidence to show harbour porpoises vocalise less in the vicinity of floating turbines. We therefore suggest that sensitivity should be revised to low for these species. The changes to sensitivity result in minor significance which is **not significant in EIA terms**.

B.6 Cumulative assessment

During Scoping, it was stated that the MUs would be used in the CEA as the screening buffer to identify relevant plans or projects for assessment. Instead, the assessment combines three SCANS blocks. Whilst this differs to what we have seen in other assessments, we accept its use.

We do not agree with all the impacts screened out and **request that for the impact C9 and D3 disturbance from increased vessel presence and traffic during construction, operation and decommissioning phases, a cumulative assessment is carried out.**

As for the project-alone assessment, we disagree with some of the sensitivity scorings. This is reflected in Table B-2, which provides a summary of our conclusions for each impact for the project cumulatively, where our scoring differs to the Applicant.

Table B-2. MarramWind EIA Report conclusions and NatureScot revised scores based on our assessment for the project cumulatively. Cells are shaded where our conclusions differ and significant conclusions are in bold. Codes: CD - common dolphin; BND - bottlenose dolphin; GS - grey seal; MW – minke whale; RD – Risso’s dolphin; WBD – white-beaked dolphin; HP – harbour porpoise; HS – harbour seal; CES – Coastal East Scotland; GNS – Greater North Sea.

		EIA Report assessment conclusions			NatureScot revised conclusions		
Effect	Receptor	Magnitude	Sensitivity	Significance	Magnitude	Sensitivity	Significance
C5 Disturbance from increased underwater noise during pre-construction	All	Low	Low	Low	Low	Medium	Minor
C6 Disturbance from increased underwater noise during installation of driven piles	HP	Low	Low	Negligible	Medium	Medium	Moderate
	MW	Low	Low	Negligible	Medium	Medium	Moderate
	BND (CES and GNS)	Med	Low	Minor	Medium	Medium	Moderate
	WBD	Med	Low	Minor	Medium	Medium	Moderate
	RD	Med	Low	Minor	Medium	Medium	Moderate
	All others	Low	Low	Negligible	Low	Medium	Minor
O6 Increased underwater noise for example operational noise and mooring noise	HP, BND, WBD, RD, HS, GS	Medium	Negligible	Negligible	Medium	Low	Minor
	All other	Medium	Low	Minor	Medium	Low	Minor

B.6.1 Impact C6 – Disturbance from increased underwater noise during installation

The cumulative effects table is very challenging to work through. The cumulative effects assessment has not calculated the UK portion of the MU for receptors, which significantly changes the percentages.

We request clarification on the piling scenarios used for the cumulative assessment due to the difficulty in working through the assessment as presented.

For harbour porpoise, minke whale, white-beaked dolphin, bottlenose dolphin, and Risso's dolphin (CES and GNS), the updated sensitivity and magnitude for disturbance results in a conclusion of moderate, which is significant in EIA terms.

The Applicant will need to consider the implications of our revised conclusions further, through the development of the Piling Strategy and Marine Mammal Mitigation Protocol (MMMP) with updated assessments, post-consent, for all species considered in the EIA Report.

B.7 Southern Trench NCMPA Assessment

Minke whale is a protected species of the Southern Trench Nature Conservation Marine Protected Area (NCMPA). Overall, the NCMPA Assessment is insufficient, due to relying on the conclusions of the EIA.

We request that the following impacts are assessed both for the project alone and cumulatively in relation to the Southern Trench MPA for minke whales:

- **Disturbance from non-impulsive noise sources (across all phases);**
- **Disturbance from UXO clearance; and**
- **Disturbance from increased vessel presence (across all phases).**

B.7.1 Impact C1 – Auditory injury from increased underwater noise during installation of driven piles

We accept that the potential instantaneous auditory injury (SPL_{peak}) from pile driving does not hinder the achievement of the site Conservation Objectives, as the ranges are within mitigatable distances. However, the cumulative auditory injury (particularly TTS SEL_{cum}) ranges are far greater and extend into the Southern Trench NCMPA. **As such the risk of hindering the Conservation Objectives is uncertain considering potential cumulative auditory injury from piling to minke whale.**

We advise that the design parameters could be refined further, in order to inform and optimise the Piling Strategy. For instance, this could include piling outside of peak minke whale season for certain locations in close proximity to the NCMPA, or piling duration restrictions to minimise the risk of cumulative auditory injury. **We request to be involved in post-consent consultation regarding ways impacts can be reduced further.**

B.7.2 Impact C2 – Auditory injury from UXO clearance

As with the EIA, we score magnitude and sensitivity to auditory injury both as high. **We consider that auditory injury from UXO clearance may hinder the achievement of the site Conservation Objectives.**

Based on the worst-case scenario auditory injury impact ranges outlined within Table 5.7, we advise that seasonal restrictions are implemented in relation to UXO clearance within the Southern Trench NCMPA. This can be revisited post-consent once more information on the size, type and location of UXO clearance events that will be required.

B.7.3 Cumulative assessment

It is unclear why both auditory injury and disturbance have been assessed together in the cumulative assessment. **Disturbance has not been assessed adequately, and we request that a cumulative assessment for disturbance from underwater noise generating activities is carried out.** Given the propagation distance for piling extends across large areas for LF and VHF cetaceans in the in-combination EIA assessment, and the models indicate that cumulative auditory injury and TTS may extend into the Southern Trench NCMPA, **further mitigation may need to be considered, for example, piling outside of peak minke whale season for certain locations in close proximity to the NCMPA.**

B.7.4 Monitoring in the Southern Trench NCMPA

We are aware that there is a collaborative project with developers in the region around strategic studies for minke whale and the Southern Trench NCMPA and **we recommend that the Applicant contributes to the strategic minke whale monitoring partnership study focusing on broadband acoustics that is already proposed in the Southern Trench NCMPA.** This will increase the understanding of minke whale temporal distribution within the NCMPA, including effort outwith the summer months.

B.8 Mitigation

Table 11.10 lists the proposed embedded mitigation measures and overall, we support those listed, noting that most measures are related to the development of plans to be submitted post-consent.

B.8.1 Outline Piling Strategy

It is stated that refinement for anchors (and the maximum number of driven piles per platform) will be undertaken during Concept Engineering and Front End Engineering Design (FEED) phases. This information will be crucial to understand whether the proposed anchor piles are realistic, and whether the underwater noise modelling is adequately representative, to define the piling timeline and to confirm the piling type (vibro, hammer etc.). Details around the use of PAM, ADDs, MMOs, soft start and ramp-up, including timings, etc. should be agreed post-consent as part of the Piling Strategy.

As above, we advise that the Applicant will need to consider the implications of our revised conclusions further, through the development of the Piling Strategy and Marine Mammal Mitigation Protocol (MMMP) with updated assessments, post-consent, for all species considered in the EIA Report.

Given the propagation distance for piling extends across large areas for LF and VHF cetaceans in the in-combination EIA assessment as highlighted above, further mitigation may need to be considered, for example, the restriction of broadscale piling in the summer months, particularly over extensive periods when considering other projects cumulatively.

B.8.2 Marine Mammal Mitigation Protocol

We encourage the submission of a detailed MMMP as soon as UXO and piling parameters are refined.

Although basking sharks are covered under the fish chapter, any mitigation measures to be implemented for marine mammal species should be applied to basking sharks.

B.8.2.1 Secondary entanglement

As indicated above, considering the uncertainties of secondary entanglement, especially at a site of this scale, **we advise that routine removal of marine debris and discarded fishing gear that can become entangled on floating structures is carried out.**

B.8.2.2 UXO clearance

Two proposed measures M-114 and M-115 are highlighted in relation to UXO clearance/disposal. We would like to reiterate that low order clearance is the preferred method and high order clearance should only be used as a final resort and after discussions with MD-LOT and NatureScot if unavoidable.

As above, **seasonal restrictions may be required in relation to UXO clearance, particularly in relation to the Southern Trench NCMPS.**

B.8.2.3 Operational noise

Engineering decisions can influence the magnitude of certain impacts, for example, mooring line tautness may correlate to the level of noise produced. **Where possible, transient noise from floating wind farm moorings and cables should be reduced as part of the embedded mitigation.**

B.8.3 Outline Navigational Safety and Vessel Management Plan

We advise that adherence to the Scottish Marine Wildlife Watching Code should be included as best practice.

Once ports and harbours have been selected, we recommend that a qualitative assessment of disturbance from specific routes to these harbours is included as an appendix to the NSVMP.

Should the use of uncrewed vessels be considered at any stage of the Proposed Development, bespoke mitigation should be discussed through consultation with NatureScot, to ensure JNCC guidance can be adhered to, particularly in relation to geotechnical and geophysical surveys.

B.9 Monitoring

No monitoring has been proposed by the Applicant. **We advise that monitoring to validate the EIA Report predictions and better understand the likelihood of these impacts of disturbance from piling and UXO clearance is required.** Site-specific noise monitoring during should be undertaken to validate the assessments in the EIA Report and we recommend that the NPL Good Practice Guide

(2014)²² is followed. Furthermore, **we advise that monitoring of transient noises from mooring lines and cables will be required** due to evidence gaps around this potential impact.

As above, **we request that the Applicant contributes to post-consent strategic monitoring of the Southern Trench NCMPA to validate the assessment conclusions.**

In terms of the RIAA, **we request the Applicant to contribute to strategic post-consent monitoring of the Moray Firth SAC bottlenose dolphin populations as part of ongoing understanding of the species and their distributional and behavioural responses to marine industries development activities.**

B.10 RIAA

We note that the following SACs with marine mammal qualifying species have been screened into the Report to Inform Appropriate Assessment (as per RIAA: Part 2 – Special Areas of Conservation):

- Moray Firth SAC – bottlenose dolphin

B.10.1 Disturbance from piling

The RIAA assessment concludes that there is no adverse effect on site integrity (AEoSI) on bottlenose dolphins the features of the Moray Firth SAC, both alone and cumulatively.

Based on the information and assessment provided **we are unable to conclude no AEoSI** on the Moray Firth SAC from behavioural disturbance from pile driving either alone or cumulatively.

We advise that the design parameters and/or modelling could be refined further, in order to reduce precaution in the project design and impacts to the bottlenose dolphin of the Moray Firth SAC. For example, the dose-response curve capped at 140 dB could be used, which we have accepted for bottlenose dolphin in the recent Ayre Offshore Wind Farm application.

B.10.1.1 Modelling locations

There are various clarifications we request in relation the modelling locations, as per B.5.5.1 based on the information that has been provided:

- **We request confirmation that the driven pile anchor N location is considered to have the largest potential for disturbance considering it is the furthest location from the CES MU.**
- **We request clarification on how many days the RCP installation will take and the proposed location of the second RCP (if still part of the PDE) to ensure that the worst-case scenario and impact to the coastal population has been fully recognised.**

B.10.1.2 Project alone

Up to 31 individuals and 13.72% of the SAC population have the potential to be disturbed on any one day that a single piling events occurs.

²² Good Practice Guide for Underwater Noise Measurement, National Measurement Office, Marine Scotland, The Crown Estate, Robinson, S.P., Lepper, P. A. and Hazelwood, R.A., NPL Good Practice Guide No. 133.

There is an 8.75% population deviation 18 years after pile driving finishes compared to the unimpacted population.

One of the conservation objectives of the Moray Firth SAC is to ensure that “the distribution of bottlenose dolphin throughout the site is maintained by avoiding significant disturbance”, therefore based the worst-case spatial scenario whereby over 13% of the Moray Firth SAC bottlenose population having the potential to be disturbed from a single OSS pile installation event, we cannot agree that there is no AEoSI.

In addition to the percentage of individuals disturbed during a single piling event, a large portion of the CES MU in the Moray Firth overlaps with the impact ranges from pile driving activities, potentially limited the distribution of the bottlenose dolphin population in this area for the duration of the construction activities.

As such, based on the information and assessment provided **we are unable to conclude no AEoSI** on the bottlenose dolphin of the Moray Firth SAC from behavioural disturbance from pile driving.

B.10.1.3 In-combination

We consider that Morven Offshore Wind Farm should have been included in the assessment as it is likely to have piling contours overlapping the CES MU. However, we also note that the assessment has included a higher number of individuals disturbed from Caledonia and Ayre than we have seen recently in the Caledonia re-assessment using the deterrence function and the 140 dB dose-response cut off used in the Ayre application. Thus, we consider that these aspects likely balance each other out.

We requested that one year either side of piling is screened in for assessment, however, we appreciate the approach of including all projects within the overall construction period as shown in Table 7.5.

There is still uncertainty about the long-term impacts of disturbance on marine mammal species. Therefore, although the Applicant highlights that it is unlikely that piling will occur concurrently for all projects screened in, we do not know if a prolonged period of regional piling will have a larger impact than all projects piling at the same time. Additionally, it is not just about the number of individuals disturbed but the proportion of the CES MU disturbed from different projects during the same timeframe that will impact the distribution of the population.

We do not agree that the use of MMO/PAM operators and mitigation zone at the Array Area will reduce the potential for disturbance of the coastal population.

As such, based on the information and assessment provided **we are unable to conclude no AEoSI** on the bottlenose dolphin of the Moray Firth SAC from behavioural disturbance from pile driving.

B.10.2 Auditory injury from UXO clearance

Noting our comments around auditory injury and UXO clearance under EIA above in B.5.7, we agree that based on the worst-case scenario, the auditory injury impact range for bottlenose dolphin is mitigatable for UXO clearance. We conclude **no AEoSI on the bottlenose dolphin of the Moray Firth SAC from auditory injury from UXO clearance.**

B.10.3 Disturbance from UXO clearance

This impact is not well assessed and is contradictory in places. However, **we are able to conclude no AEoSI on the bottlenose dolphin of the Moray Firth SAC from disturbance from UXO clearance.**

B.10.4 Monitoring

We request the Applicant to contribute to strategic post-consent monitoring of the Moray Firth SAC bottlenose dolphin populations as part of ongoing understanding of the species and their distributional and behavioural responses to marine industries development activities.

NATURESCOT ADVICE ON MARRAMWIND OFFSHORE WINDFARM

Appendix C Fish and shellfish ecology

Fish ecology is considered in Chapter 13: Fish ecology, Chapter 8: Underwater Noise and Chapter 33: Cumulative Effects Assessment.

The EIA assessment for fish and shellfish ecology concludes no significant impacts alone or cumulatively. However, due to the OAA overlapping with recurrent grounds for spawning cod, and the ECC being within a key area for herring spawning, **we advise there are significant impacts on these species from underwater noise and impacts to spawning habitats, and mitigation will be required following refinement of the project envelope. We advise Marine Directorate to secure detailed mitigation presented post-consent through the development of the relevant post-consent plans, if consented.**

Mitigation of impacts to cod and herring requires avoiding impacts during spawning seasons:

- **piling and cable laying within the OAA during cod spawning should be avoided; and**
- **construction of the ECC should not take place during the herring spawning season and whilst eggs are on the seabed (egg development period).**

Regarding monitoring, should Scottish Ministers grant consent, we advise that:

- **A monitoring proposal to validate the EIA Report predictions and subsequent mitigation measures will be required.**
- **Monitoring of EMF either alone or in collaboration via strategic measures to contribute to the evidence gap in relation to EMF impacts and dynamic cables associated with a floating offshore wind farm.**

C.1 Study area

Section 13.4.2 of Chapter 13 defines the study area as the Offshore Array Area (OAA) and offshore export cable corridor (ECC) up to MHWS plus a 50 km Zone of Influence (Zoi).

C.2 Baseline characterisation

C.2.1 Data sources

Table 13.5 of Chapter 13 summarises data sources used to inform the fish ecology chapter. For herring we note that the EIA has not considered the International Herring Larvae Surveys (IHLS) This is an ICES programme to provide quantitative estimates of herring larval abundance which can be used to locate areas of importance for herring spawning.

For cod, the EIA data sources omit the modelled data by Gonzalez-Irusta and Wright (2016)²³. The output of this model is available on NMPi and shows a heat map for spawning grounds in the North Sea. The Gonzalez-Irusta and Wright (2016) model shows that the MarramWind OAA overlaps an

²³ José M. González-Irusta, Peter J. Wright, Spawning grounds of Atlantic cod (*Gadus morhua*) in the North Sea, *ICES Journal of Marine Science*, Volume 73, Issue 2, January/February 2016, Pages 304-315, <https://doi.org/10.1093/icesjms/fsv180>

area of seabed that is recurrent grounds for spawning cod. In the context of the rest of the North Sea, this is an important area for this species and impacts should have been considered in more detail given the importance of the seabed for cod lekking (mating), as we describe in C.2.2 below. We therefore advise mitigation will be required for this species in C.5 below.

Table 13.6 highlights the surveys undertaken to inform the fish ecology assessment. These include geophysical, geotechnical and environmental data (80 grab samples and DDV/DDC). No specific fish surveys took place. We welcome the use of eDNA, as per Appendix 10.3, which complements the traditional sampling methods.

C.2.2 Baseline conditions

Atlantic herring is discussed in Section 13.6.1.7-18 of Chapter 13. The Particle Size Distribution (PSD) results indicate that there is no suitable habitat for herring spawning within the OAA. PSD results within the export cable corridor (ECC) shows 7 stations with prime/sub-prime habitat and 11 stations with suitable habitat. A map showing where the 18 stations with prime/sub-prime and suitable habitat is located would have been helpful. This area should then be assessed against cumulative herring larval density as determined by IHLS. From other assessments supporting Offshore Wind Farms in Scottish waters, we know that this ECC is within a key area for herring spawning. We therefore advise mitigation will be required for this species in C.5 below.

Section 13.6.1.39 describes how Langton *et al.* (2021)²⁴ has been used to determine sandeel predicted density within the OAA. However, we highlight that there are limitations to the applicability of this model as the ‘training data’, taken from the Firth of Forth, has a depth range between 30-50 m. Anything deeper than 50 m is not considered as sandeel habitat in the model even though we know Raitt’s sandeel (*Ammodytes marinus*) can be found at depth up to 150 m.

Atlantic cod is discussed in Section 13.6.1.50-52. Within this section it should be noted that this species uses the seabed for mating. Spawning areas are chosen according to suitable substrate type, temperature and current flow. Once found, the males will identify small territories (known as leks) that they subsequently defend from other males (Gonzalez-Irusta and Wright, 2016). During mating, males will patrol their leks, emitting grunting and rumbling sounds to attract females.

Table 13.12 displays the key demersal species detected with spawning and/or nursery grounds that overlap with the OECC and/or the OAA. We note that there is no corresponding table for pelagic species so herring, an important demersal spawner, has been omitted from this section.

C.2.3 Embedded environmental measures

Table 13.17 lists relevant fish ecology embedded environmental measures. There are no embedded mitigation measures specifically for fish, however M-054 states cable burial should be between 1-2m depth, which will be of benefit to fish and shellfish receptors.

C.3 Impact assessment

²⁴ Langton, R., Boulcott, P. and Wright, P. J., (2021). *A verified distribution model for the lesser sandeel Ammodytes marinus*. Marine Ecology Progress Series, 667, pp.145-159.

We are content with the potential impacts scoped in and scoped out of the fish ecology assessment, as per Table 13.3 and 13.4 of Chapter 13.

C.3.1 Impact C1: pre-construction seabed preparation works and Impact C2: temporary habitat loss and / or disturbance during construction

In terms of the sensitivity of receptor (Section 13.9.2.4), we agree that the most sensitive fish species to temporary habitat loss will be those that spawn on or near the seabed, such as Atlantic herring, sandeel and oviparous elasmobranchs, e.g. common skate complex. This list should also include cod, as although the eggs are pelagic, the mating ritual takes place on the seabed.

C.3.2 Impact C4: mortality, injury and behavioural changes resulting from underwater noise, vibration and particle motion for example, UXO clearance, during construction

With regard to the sensitivity of receptor (Section 13.9.4.5), we disagree that all fish species in groups 1 (fishes with no swim bladder or other gas chamber) and 2 (fishes with a swim bladder that does not aid in hearing) have very low sensitivity to underwater noise. Sandeel are different from these groups as they inhabit the sediment, and so are sensitive to vibration and particle motion created by noise. We advise that sandeel should be assessed as low sensitivity to underwater noise. This does not affect the overall conclusion of **not significant** in EIA terms.

We also disagree with the conclusion of low sensitivity to underwater noise for fish groups 3 (fishes with swim bladders that are close, but not connected, to the ear) and 4 (fishes that have special structures mechanically linking the swim bladder to the ear). This conclusion is based partly on the mobility of the fish. Due to herring and cod being benthic spawners or having mating rituals related to the seabed, the ability for these species to flee from noise might be limited during spawning. Therefore, we would assess spawning cod to be medium sensitivity and herring as having high sensitivity to underwater noise. Given the magnitude of effect is low or very low, this does not affect the overall conclusion of **not significant** in EIA terms.

C.3.3 Impact O6: electromagnetic field arising from cables

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 sharks. We are also aware that through ScotMER a project undertaking in-field measurements of EMF is underway and once this has reported, this may, influence future assessment and / or mitigation requirements in terms of EMF effects. In-line with other recently consented offshore floating wind farm proposals, we advise that monitoring of EMF should be conducted.

C.4 Cumulative assessment

The cumulative effects assessment for fish ecology is considered in section 33.6.7 of Chapter 33. Cumulative effects are considered to be **not significant** by the Applicant. We agree with this conclusion.

C.5 Mitigation and monitoring

As highlighted in C.2.1, the MarramWind Array Area overlaps with recurrent grounds for spawning cod and is therefore an important area for cod lekking (mating). As such, **piling and cable laying within the Array Area during cod spawning should be avoided**. The spawning period for cod is between Jan-April, with uncertainty around the peak spawning period. To help better understand the peak spawning period and refine this mitigation, we advise that the Applicant conduct a desk-based study.

Additionally, based on assessments received from other North Sea Offshore Wind Farms, the ECC is within a key area for herring spawning as per C.2.2. Mitigation for herring spawning grounds will be required, and **construction of the ECC should not take place during the herring spawning season and while eggs are on the seabed (egg development period)**.

Detail around the mitigation can be presented post-consent, through the development of the relevant post-consent plans, if consented.

No monitoring is proposed. However, given mitigation is required for spawning cod and herring spawning grounds if consented, **some form of monitoring would be required to identify if the mitigation is successful**.

Moreover, as noted above and in-line with other recently consented offshore floating wind farm proposals, we advise that monitoring of EMF should be conducted.

As such, should Scottish Ministers grant consent, we advise that:

- **A monitoring proposal to validate the EIA Report predictions and subsequent mitigation measures will be required.**
- **Monitoring of EMF either alone or in collaboration via strategic measures to contribute to the evidence gap in relation to EMF impacts and dynamic cables associated with a floating offshore wind farm.**

C.5.1 Diadromous fish

We welcome the embedded mitigation measure M-061 which aims to “minimise potential for creation of a temporary barrier to fish migration in any river adjacent to cable landfall(s) due to a plume of mobilised sediment obstructing the river entrance by appropriate timing of operations close to the shore regarding tidal flows and fish migration seasons”.

C.6 RIAA

At the EIA Scoping and HRA Screening stage we provided our position on diadromous fish whereby impacts should be assessed through the EIA process and not through HRA. This position reflects:

- Limited knowledge of spatial and temporal distribution and behaviour of these species in the marine environment,
- Lack of evidence to inform impact pathways, and,
- Lack of reference population figures which prevents impact apportioning to SACs.

Diadromous fish and SACs have been assessed through the EIA process, for example, in Impact C7 (potential impacts on designated sites) in Chapter 13. We are content with the conclusions there is **no significant impact on diadromous fish**.

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Appendix D Benthic ecology

Benthic interests are considered in Chapter 10: Benthic, Epibenthic and Intertidal Ecology, and the following, relevant supporting appendices:

- Appendix 10.1 Benthic Characterisation Report
- Appendix 10.2 Environmental Intertidal Survey – Benthic Report 2023
- Appendix 10.3 Geophysical & Environmental Export Cable Corridor Benthic Survey Interpretative Report 2024.
- Appendix 10.4 Geophysical & Environmental Survey Volume 2 of 11 Benthic Survey Interpretive Report
- Appendix 10.5 MarESA FeAST Sensitivity Scores
- EIAR Volume 4: Outline Offshore Invasive Non-Native Species (INNS) Management Plan

Overall, the documents provide an appropriate level of detail and were presented well, with our pre-application advice being considered and appropriately addressed. The assessment for Benthic Ecology concludes **No Significant effects** both alone, and cumulatively, which we support.

Please note that we do not advise on Blue Carbon in this appendix, but instead provide our advice in Appendix F.

D.1 Study area

The Benthic, Epibenthic and Intertidal Ecology Study Areas include the OAA (575km² approximately 75km² at its closest point off the Aberdeenshire coast) and encompasses the Offshore Red Line Boundary (OAA and offshore export cable corridor, as detailed in Volume 1, Figure 1.1: Red Line Boundary).

A secondary, precautionary ZOI which has been informed by tidal excursion extent and coastal process dynamics. The ZOI buffer zone extends 15km around the offshore export cable corridor and OAA. The intertidal ecology study area extends up to MHWS within the Red Line Boundary. This is in line with our Scoping Advice, and appropriate for benthic receptors.

D.2 Baseline characterisation

Existing and site-specific data has been reviewed and presented clearly, with species and habitats of conservation value correctly identified and considered. This includes Scottish Priority Marine Features (PMFs), and Annex 1 habitats (*Caryophyllia smithii*, sponges and crustose communities on wave exposed circalittoral rock, geogenic and biogenic reef).

Data collection methods for baseline characterisation follow our guidance, and the correct data sources and methods have been used to characterise the AA, ECC and Study Areas, as detailed in Table 10.5 and 10.6.

D.3 Assessment Approach

Table 10.4 presents the impacts scoped out of the assessment, and we are content that the assessment identifies the appropriate potential impacts, following the Scoping Opinion.

Table 10.10 presents the maximum design scenario (MDS) considered in the assessment of impacts on benthic, epibenthic and intertidal ecology, and includes the maximum anticipated footprint for activities/impacts.

Section 10.8.2. sets out the approach to evaluate significance of effect for benthic, epibenthic and intertidal features. We support the approach detailed in Chapter 5: Approach to the EIA (Plate 5.3) and the use of a sensitivity matrix (sensitivity x magnitude).

D.4 Impact assessment

We are broadly content with the final assessment of residual likely significance in Table 10.20, which concludes **no likely significant effects** throughout construction, O&M and decommissioning.

D.4.1 Construction

Overall, we agree with the significance of effects for construction impacts as **Not Significant** for benthic and intertidal receptors.

Section 10.9.2.13 summarises the predicted effect of Impact C1: temporary disturbance of seabed habitats, on each receptor group (Subtidal habitats and species; Shellfish; Habitats of conservation importance and Species of conservation importance). We agree with the sensitivity values for each receptor group and agree that the overall significance of effect is unlikely to be significant, as presented in Table 10.19. However, we highlight the following discrepancy – Section 10.9.2.13 states the predicted effect on both habitats and species of conservation importance to be **Minor - Moderate Adverse**, in contrast to Table 10.19. The summary in Section 10.9.2.13 suggests a potential significant effect for habitats and species of conservation importance, whilst Table 10.19 does not.

D.4.2 Operation and Maintenance

Impacts O4 and O5 both use receptor sub-groups “habitats of conservation importance” and “species of conservation importance” which are allocated a sensitivity of high, and a magnitude of low, leading to conclusions of **Moderate Adverse (Potentially Significant)** using the significance matrix in Table 10.16. These conclusions are summarised in Table 10.19.

Table 10.20 then considers “summary of residual likely significant effects”, which includes a column for Additional Mitigation Measures, which appears to rely solely on expert judgement. For both impacts the conclusion is changed to **Moderate Adverse (Not Significant)**.

The flow of assessment is unclear as there seems to be no additional rationale as to the change in conclusion between Table 10.19 and Table 10.20. However, we do note that embedded environmental measure M-055 (micrositing) is referred to in the text (section 10.10.5.15). We suggest that citing this measure in Table 10.20 would make the flow of assessment easier to follow.

Nevertheless, we accept the overall conclusions for impacts O4 and O5. For all other impacts during the O&M phase, the assessment concludes **no significant effects on benthic receptors**, which we accept.

We welcome the assessment of Electromagnetic Fields (EMF). Chapter 9 (Electro Magnetic Fields) presents the results of EMF modelling and distance from cable infrastructure. The modelling provides a predicted worst-case scenario for varying cable configurations which is helpful to see but doesn't explain what these impacts mean in a biologically meaningful way. It would have been useful to see a more descriptive link between benthic receptors and the projected worst case scenario EMF emissions. We are also aware that through ScotMER a project undertaking in-field measurements of EMF is underway and once this has reported, this may, influence future assessment and/or mitigation requirements in terms of EMF effects.

D.4.3 Decommissioning

Potentially significant effects (Moderate Adverse) are concluded for Impact D1: temporary disturbance of seabed habitat, for species and habitats of conservation importance. All other impacts are assessed as Minor Adverse (Not Significant). However, these significant effects are not carried through to Table 10.20, and the Applicant deems this Moderate Adverse effect to be Not Significant. Similarly to our comments for O&M, additional narrative would have been helpful to understand how the significance has been minimised.

D.5 Cumulative assessment

Section 33.6.4 of Chapter 33: Cumulative Effects Assessment lays out the benthic, epibenthic and intertidal ecology cumulative effects assessment. Cumulative impact pathways have been correctly identified, and we are content with the overall conclusion of **Not Significant** for cumulative impacts at all phases of the development.

D.6 Mitigation and monitoring

Table 10.11 sets out the benthic, epibenthic and intertidal ecology embedded environmental measures. Embedded mitigation measures are primarily plans (*e.g.*, Outline Scour Protection Plan completed prior to construction commencing), which do not in themselves constitute mitigation. However, we are content that embedded mitigation within them is in line with similar developments, and therefore we accept this.

We welcome the commitment to micro-site infrastructure around key sensitive habitats (M-055).

Pre-construction surveys are proposed to monitor cable and foundation installation works (Volume 4, Outline Project Environmental Monitoring). Where sensitive seabed features are identified, micro-siting will be undertaken, where practicable to avoid them. Whilst it is positive to see that efforts to minimise impacts will be taken, we do not agree that pre-construction surveys can be viewed as monitoring. Rather, they are required to inform installation activities, and as a secondary benefit allow for the avoidance of sensitive benthic features. No other monitoring is proposed for benthic ecology as predicted impacts for benthic, epibenthic and intertidal ecology are Not Significant. However, where possible we recommend that any data collected is shared with strategic monitoring, or research programmes such as ScotMER projects.

D.6.1 INNS Management Plan

This appears to be a comprehensive mitigation and contingency plan, clearly presented and in line with guidance. Further detail will be required post consent, if granted.

D.7 Nature Conservation Marine Protected (NCMPA) Assessment

The MPA Assessment (Nature Conservation Marine Protected Area Assessment) considers the potential impacts on benthic features of the Southern Trench MPA. Burrowed mud and shelf deep features of the MPA have been screened out of the assessment. We agree with the screening out of these features at the first stage, as the impacts are **not capable of affecting these features, other than insignificantly**.

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Appendix E Marine Geology, Oceanography and Physical Processes

Marine geology, oceanography and physical processes are considered in Volume 2, Chapter 6, and the following relevant supporting appendices:

- Appendix 6.1 Physical Processes Modelling
- Appendix 6.3 Marine Geology Oceanography and Physical Processes Baseline Report

The assessment for marine geology, oceanography and physical processes concludes impact assessed to be **Minor (Not Significant)** across all project phases, both alone and cumulatively (see Table 6.14 of Chapter 6, and Section 33.1 of Chapter 33). These effects are considered **Not Significant in EIA terms**.

The advice we provide within this Appendix addresses specific elements of the assessment that we do not support, however, in our view, this does not alter the overall conclusions. Noting that we require clarification from Marine Directorate on issues set out below; **we broadly agree with the overall conclusions reached of Not Significant in EIA terms**.

Regarding the moraines sub-feature of the Quaternary feature of the Southern Trench NCMPA, we broadly agree with the conclusion that the proposal will not result in a significant risk of hindering the achievement of the Conservation Objectives of the MPA. However, **this is dependent on additional clarifications** as described in E.3.1 below.

We advise that **advice should be sought from MD-SEDD on the cumulative effects of changes to the wave climate**. The potential cumulative impact of Offshore Wind Farms on wave attenuation, and the consequent impact to coastal features is an emerging issue, particularly when considering impacts to coastal designated sites. See further advice on this topic below in E.4.1.

Similarly, we advise that **Marine Directorate (MD-LOT or MD-SEDD) provide clarification on the level of cumulative assessment** required by Applicants in relation to Southern Trench NCMPA. In our view several previous Applications have presented insufficient assessment for the cumulative effects of physical processes impacts within their EIA. See further advice on this topic below in E.4.2.

NatureScot have previously raised the need for strategic consideration of impacts to physical processes by both Scottish Government (Offshore Wind and Marine Directorates) and the National Electricity System Operator (NESO) with regard to cumulative impacts from cables. We continue to recommend a strategic approach to consideration of cumulative impacts. In our view, the ScotMER programme and/ or Marine License conditions could present opportunity to consider monitoring strategically, taking into account SEA/ EIA predictions, construction and operating requirements.

E.1 Study area

The marine geology, oceanography and physical processes study area is defined by a spring tidal excursion ellipse buffer, consideration of coastal processes data, and the distance from the OAA that wave blockage impacts could theoretically be detected. Section 6.4.2 describes how the study area is informed but does not numerically state the spatial extent of the study area. Figure 6.1 shows the spring tidal excursion ellipse buffer and marine geology, oceanography and physical processes study, but again, the distances are not provided.

E.2 Baseline characterisation

The baseline is characterised by appropriate data sources and site-specific surveys, as detailed in Tables 6.4 and 6.5. We accept the baseline characterisation for the OAA and ECC.

E.3 Impact assessment

We accept the marine geology, oceanography and physical processes effects scoped out of the assessment, as detailed in Section 6.4.6.

E.3.1 Impact C2 Potential changes to the wave regime

We are partly in agreement with the assessment of Impact C2 (Potential changes to the wave regime), and related findings of the NCMPA assessment for the Southern Trench NCMPA, that any effects on the moraines and/or tunnel valleys that make up the Quaternary feature should be of very low Magnitude.

The physical impact of the proposed ECC cable trenching and installation, even if this cuts through overlying sediments into the landforms below, **is capable of affecting, other than insignificantly, the protected feature, but there is no significant risk of hindering the achievement of the conservation objectives**. We reach this conclusion based on the very small scale of the works relative to the extensive landforms. Using the same rationale, we reach the same conclusion for modification and obscuring of these landforms by cable protection and/ or disposal mounds.

However, Section 6.9.3.1 of Chapter 6 states that “levelling of moraines (including within the Southern Trench MPA) cannot be ruled out”. We advise that levelling of moraines within the MPA **is capable of affecting, other than insignificantly, the protected feature, and further information is required to determine whether there is a significant risk of hindering the achievement of the conservation objectives (to maintain extent, component elements and integrity)**.

We require clarification on the requirement for levelling of moraines within Southern Trench NCMPA, noting the following:

- The mapped moraine referred to in section 6.9.3.6 and in NatureScot’s NCMPA site documentation²⁵ is the protected moraine sub-feature of the Southern Trench NCMPA.
- There are other known moraines in the region (e.g. Appendix 6.3, Figure 5) which, at present, are not protected features of the NCMPA. Impacts to these other moraines would, at present, **not be capable of affecting the protected feature**, and also be not significant in EIA terms.
- Several previous Applications have discussed levelling of moraines within the Southern Trench NCMPA for cable clearance. However, this appears to be the first Application that cannot rule out this potential impact.

E.4 Cumulative assessment

²⁵ <https://sitelink.nature.scot/site/10477>

E.4.1 Cumulative Reductions in Wave Climate

Appendix 6.1 predicts that in certain wave conditions, the coast could experience significant wave height reduction. In the EIA, this is not discussed, and the potential effects are not assessed.

Waves from the Northeast appear to cast a 'shadow' of between 5% and 7.5% reduction onto the north-facing coasts of Banffshire & Buchan (Plates 2.17 & 2.18), as recognised in Chapter 33, Table 33.8. However, there does not appear to be an assessment on the potential effects of this pathway in Chapters 33, 6 or 23.

Similarly, waves from the East and East-Northeast appear to cast a 'shadow' of between 5% and 7.5% reduction onto South-East facing coasts of Caithness (Plates 2.15 & 2.16 in Appendix 6.1). However, the EIA does not discuss or assess this.

This was not raised at EIA scoping, and we did not recommend consideration of a wider group of coastal receptors, because we could not anticipate the appreciable wave shadow from MarramWind extending over 40km.

Chapter 33 attributes 'mostly all' of the modelled wave height reduction at the coast to projects other than MarramWind. For parts of the Banffshire & Buchan coast, and Caithness coasts as described above, and considering the MarramWind only plots in Plates 2.10 to 2.12, we do not agree. More importantly, without any quantification, the requirement to assess the potential effects on coastal receptors is even more important.

Noting the above concerns in relation to cumulative reductions in wave climate, we consider the following protected areas capable of being affected by the cumulative wave height reductions, at the coast:

- Roseheartly to Fraserburgh Coast SSSI (recognised in Table 33.8): coastal rock outcrops, bird populations
- Gamrie & Pennan Coast SSSI: coastal rock outcrops, maritime cliff habitat, bird populations (overlap with Troup, Pennan & Lion's Heads SPA)
- Whitehills to Melrose Coast SSSI: coastal rock outcrops
- Cullen to Stake Ness Coast SSSI: coastal rock outcrops, saltmarsh & shingle
- Helmsdale Coast SSSI: coastal rock outcrops
- Berriedale Cliffs SSSI: maritime cliff habitat, bird populations (overlap with East Caithness Cliffs SPA)
- Dunbeath to Sgaps Geo SSSI: maritime cliff habitat (SPA overlap)
- Craig Hammel to Sgaps Geo SSSI: coastal rock outcrops, maritime cliff habitat, bird populations (SPA overlap)
- Castle of Old Wick to Craig Hammel: maritime cliff habitat (SPA overlap)
- Long Berry Coast SSSI: coastal rock outcrops (SPA overlap)

We advise MD-LOT to seek further advice from MD-SEDD on these cumulative effects of changes to the wave climate, and to consider what further evidence may be required from the Applicant.

E.4.2 Southern Trench NCMFA – Quaternary Feature

Insufficient assessment has been provided on the potential cumulative impacts of the ECC cable installation on the Quaternary feature of the NCMFA. Table 33.8 of Chapter 33 includes assessments

of cumulative impacts to seabed morphology, but discusses only sediment transport, not the types of impacts mentioned above.

The MPA assessment claims that a lack of hi-resolution landform means it is “not possible to accurately determine the potential for cumulative effects”. **However, we advise MD-LOT to seek further advice from/ agreement with MD-SEDD on the following aspects of cumulative impacts to Southern Trench NCMPA, including consideration of what further evidence is required from this Applicant:**

- 1. Detailed mapping of the congested area within the MPA east and NE of Peterhead (see EIA Figure 33.8 for coarse mapping);**
- 2. Defining a maximum design scenario in terms of number of crossings of the moraines and tunnel valleys mapped in the Data Confidence Assessment²⁶, minimum proximity between the export cables of different OWFs, and potential crossings; and**
- 3. Assessment of the potential cumulative impact on the NCMPA Quaternary features, taking account of the lack of detail in the MPA landform mapping.**

E.5 Mitigation and monitoring

Relevant embedded mitigation for marine geology, oceanography and physical processes is outlined in Table 6.7. Most of the measures in this table are plans, which do not constitute mitigation. However, we are content that embedded mitigation within them is in line with similar developments, and therefore we accept this.

The following ScotMER research project is about to or has recently completed "Development of marine physical process modelling guidelines for offshore wind farm environmental impact assessments". We acknowledge the timing for this proposal may not align with the outputs of this research project however it may be useful to consider the research outputs when designing monitoring, if consented.

The following research programmes are also relevant, and research outputs should be considered when designing physical processes monitoring:

- ECOWind "Physics-to-Ecosystem Level Assessment of Impacts of Offshore Windfarms" (PELAGIO)²⁷
- Enabling Sustainable Wind Energy Expansion in Seasonally Stratified Seas (eSWEETS3)²⁸
- Ecological Effects of Floating Offshore Wind (ECOFlow)²⁹

Further advice should be sought from MD-SEDD on this topic.

E.6 Nature Conservation Marine Protected Area Assessment

²⁶ <https://www.nature.scot/sites/default/files/nature-conservation-mpa/10477/mpa-data-confidence-assessment.pdf>

²⁷ <https://ecowind.uk/projects/pelagio/>

²⁸ <https://pcwww.liv.ac.uk/%7Ejones/research.htm>

²⁹ <https://www.ecoflow.org.uk/>

Quaternary of Scotland features are screened into the MPA assessment, as there is potential for impacts to seabed morphology within the Southern Trench NCMPA as a result of cables being installed into moraines and tunnel valleys and the requirement of levelling. As detailed in section E.3.1 above, if levelling of moraines within the Southern Trench NCMPA cannot be ruled out, then there may be significant risk of hindering the achievement of the conservation objectives to maintain extent, component elements and integrity.

Section 5.5.3.12 concludes the effect significance of potential impacts to moraines and tunnels as Minor (not significant), and that there is no potential to hinder the conservation objectives (other than insignificantly). **As stated above, we agree with this statement on the condition that the mapped moraine within the MPA is not levelled.**

In Section E.4.1 above, we have detailed concerns around the insufficiency of the assessment of potential cumulative impacts of the ECC cable installation on the MPA's Quaternary features.

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Appendix F Blue carbon

Blue Carbon interests are considered in Chapter 7: Marine Water and Sediment Quality (Volume 1) and Chapter 10: Benthic, Epibenthic and Intertidal Ecology (Volume 1).

In this Appendix we provide advice on the Blue Carbon assessment and conclusions, we do not provide comment on other elements of Chapter 7 or Chapter 10.

Overall, the documents lacked detail and the assessment for sedimentary Blue Carbon was limited. Where possible, we have provided our own assessment for Blue Carbon based on the information provided across other related receptors. 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 MarramWind Offshore Wind Farm 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; our comments are provided to 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. In addition, there is an increasing need to also recognise the climate change mitigation potential in line with the Blue Carbon Action Plan³⁰.

F.1 Study area

The study area is defined as the Proposed Development, including the Array Area and Export Cable Corridor (ECC), as well as a secondary Zone of Influence (ZOI) of up to 15 km based on tidal ellipse and coastal process dynamics. We are broadly content with this approach.

However, it is unclear whether this encompasses the landfall, including the intertidal area between Mean High-Water Springs (MHWS) and Mean Low-Water Springs (MLWS). Typically, we would expect inclusion of the intertidal area, especially as coastal habitats (e.g. sand dunes, saltmarsh, etc) may be present. Further advice is presented in F.4.1 below.

F.2 Baseline characterisation

Many key data sources we would recommend for the Blue Carbon assessment are missing, including:

- Cunningham, C. and Hunt, C. 2023. Scottish Blue Carbon - a literature review of the current evidence for Scotland's blue carbon habitats. NatureScot Research Report 1326.
- 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.

³⁰ <https://www.gov.scot/publications/scottish-blue-carbon-action-plan/>

Communications Earth and Environment, 3(1), 1–8. <https://doi.org/10.1038/s43247-022-00625-0>

- 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>
- Smeaton, C., Austin, W., & Turrell, B. (2020). *Re-evaluating Scotland's sedimentary carbon stocks*. (2 ed.) (Scottish Marine and Freshwater Science; Vol. 11, No. 2). Marine Scotland. <https://doi.org/10.7489/12267-1>
- Smeaton, C. and Austin, W.E.N. (2022). Quality not quantity: Prioritizing the management of sedimentary organic matter across continental shelf seas. *Geophysical Research Letters*, 49, <https://doi.org/10.1029/2021GL097481>
- 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.

Additionally, our understanding is that no site-specific surveys were undertaken for Blue Carbon. Appendix 10.2: Environmental Intertidal Survey (Volume 3) indicates that carbon samples were taken for the intertidal area. However, this does not seem to have been replicated across the offshore area when reviewing either Appendix 7.1: Geophysical and Environmental Offshore Windfarm Survey (Volume 3), Appendix 7.2: Geophysical and Environmental Export Cable Corridor Survey (Volume 3), or Appendix 10.4: Geophysical and Environmental Offshore Windfarm Survey Report (Volume 3). Whilst we typically recommend that site-specific data is used where possible, we are also content to accept a desk-based assessment for Blue Carbon.

F.3 Assessment approach

F.3.1 Impact pathways

For Blue Carbon habitats, Paragraph 10.9.2.4 of Chapter 10: Benthic, Epibenthic and Intertidal Ecology (Volume 1) states that receptors are present within the wider study area, but not within the Array Area or Export Cable Corridor. As such, Blue Carbon habitats have not been considered within impacts C1/O1/D1 (temporary disturbance of seabed habitat) or impact O4 (long-term habitat loss), as there is no direct overlap. Blue Carbon habitats have been considered within C2/O2/D2 (temporary increase in suspended sediment deposition), C3/O3/D3 (mobilisation of sediment associated contaminants), and C4/D5 (increased risk of introduction or spread of marine INNS). We are content with the impacts included for Blue Carbon habitats.

Moreover, 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. We therefore recommend that future Blue Carbon assessments should also 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).

For sedimentary Blue Carbon, only impact C6 (change in the blue carbon resource in sediments) is assessed in Chapter 7: Marine Water and Sediment Quality (Volume 1). Typically, we would expect this to be broken down into temporary disturbance of seabed and long-term seabed loss.

F.3.2 Sedimentary Blue Carbon

Table 7.18 of Chapter 7: Marine Water and Sediment Quality (Volume 1) provides the total sediment mobilised directly through construction. However, this only includes high level figures for seabed preparation, piling for foundations, and seabed preparation for export cables, which appears to underestimate the potential impact. As above, impact pathways for sediments should be similar to those for benthic ecology, i.e. temporary disturbance of seabed and long-term seabed loss. Therefore, we would expect more detailed figures to be provided for the maximum design scenario, similar to Table 10.10 of Chapter 10: Benthic, Epibenthic and Intertidal Ecology (Volume 1).

Additionally, no further quantitative assessment is provided for how the total sediment disturbed equates to carbon likely to be disturbed/lost through the installation of infrastructure. Site-specific carbon values can be applied where surveys have been undertaken, or existing data sources can be used to map and quantify the carbon stocks in the underlying sediment. This has not been presented. Instead, it is briefly stated that “Given the particle size of the sediments, and the dominance of sand within the study area, the disturbance of sediments is not anticipated to release a substantial portion of carbon”, with no further justification presented.

We have provided our own assessment of impacts to sedimentary Blue Carbon in Table F-1 below, using the maximum design scenario figures presented in Table 10.10 of Chapter 10: Benthic, Epibenthic and Intertidal Ecology (Volume 1) and the overall mean substrate organic carbon density value of 4.2 tonnes ha⁻¹ from Smeaton *et al.* (2020). Previous assessments have scaled the mean organic carbon density values of each substrate type in Table 5 of Smeaton *et al.* (2020) by the relevant proportion of site-specific sediment types identified through surveys, which would provide a more representative assessment, and we highlight this for future Applicants to be aware of.

F.4 Impact assessment

F.4.1 Blue carbon habitats

Assessment of Blue Carbon habitats is presented in Chapter 10: Benthic, Epibenthic and Intertidal Ecology (Volume 1).

Paragraph 10.6.1.35 states that “Although not recorded within the 2023 survey ... previous records indicate that kelp beds may be present within the wider study area”, noting that they have not been

recorded within either the Array Area or Export Cable Corridor. We are content that impacts such as C2/O2/D2 (temporary increase in suspended sediment deposition), C3/O3/D3 (mobilisation of sediment associated contaminants), and C4/D5 (increased risk of introduction or spread of marine INNS), pose little risk to any kelp beds within the wider study area.

Appendix 23.2: Habitats and Vegetation Survey Report (Volume 3) indicates that dune grassland and open dune habitats are present within the intertidal zone of the landfall locations. As such, we would typically expect consideration of this habitat within the Blue Carbon assessment. However, we note that in Chapter 10, Paragraph 10.9.2.4 states that “Intertidal habitats are not considered to be at risk of this impact [temporary disturbance of seabed habitat] due to the use of HDD for construction at the landfall(s)”. We are content that the HDD trenchless cable installation will minimise disturbance to the dunes (and their carbon stores).

As such, we agree with the overall significance of minor, which is not significant in EIA terms.

F.4.2 Sedimentary carbon

Assessment of Blue Carbon habitats is presented in Chapter 7: Marine Water and Sediment Quality (Volume 1). Little consideration is given to sedimentary Blue Carbon, and a full quantitative assessment is not provided. As per F.3.2, we provide our own assessment of impacts to sedimentary Blue Carbon in Table F-1 below.

Table F-1. NatureScot assessment of impacts to sedimentary Blue Carbon, based on the maximum design scenario figures presented in Table 10.10 of Chapter 10: Benthic, Epibenthic and Intertidal Ecology (Volume 1) and the overall mean substrate organic carbon (OC) density value of 4.2 tonnes per hectare ($t\ ha^{-1}$) from Smeaton et al. (2020).

Temporary disturbance (impact C1)	Long-term loss (impact O4)	OC density value	OC from temporary disturbance	OC from long-term loss
Table 10.10 of Chapter 10	Table 10.10 of Chapter 10	Smeaton et al. (2020)	NatureScot assessment	NatureScot assessment
4,911 ha	1,314 ha	4.2 $t\ ha^{-1}$	20,626 tC	5,519 tC

As the fate of disturbed sedimentary organic carbon is currently unknown, as a precautionary approach, it should be assumed that 100% of the disturbed volume will result in CO₂ emissions to the atmosphere, although we acknowledge that this is likely an overestimate. Using the temporary disturbance carbon value of 20,626 tC calculated above, this represents 75,697 tCO₂ equivalent, which we consider 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, the sensitivity would be classed as ‘high’.

Overall, we conclude a significance of minor, which is not significant in EIA terms.

F.5 Cumulative assessment

The Blue Carbon assessment presented does not include a cumulative assessment. We advise that future assessments should consider the cumulative impacts of disturbance from other developments, including longer-term carbon stored deeper.

F.6 Mitigation and monitoring

No mitigation or monitoring is proposed for Blue Carbon, which aligns with the 'negligible' magnitude and no significance of effect.

Appendix G Derogation

Our review of the derogation case documentation focusses primarily on Appendix A: HRA Compensation Plan.

The Applicant has identified potential compensation requirements for kittiwake, guillemot, razorbill, puffin, and gannet. We note that our assessment of AEoSI for the project alone and in-combination impacts differ to the Applicant's, and so the designated sites and features considered, and the level of impacts requiring compensation, differ from those considered within the Applicant's derogation case.

For each of these species the Applicant has provided a literature review of the relevant species ecology, site network coherency and species pressures. These literature reviews provide a useful context.

The Applicant has provided an outline of the approach used to identify and short-list potential compensation measures. The approach used is reasonable and appropriate, and detail is provided as to the ranking and scoring of each potential measure based on specificity, effectiveness, delivery timeframe, technical delivery, conservation value and extent.

The short-listed compensation measures consist of:

- Strategic compensation measures fund contribution
- Predator eradication and biosecurity
- Conservation management funding

The Applicant also notes that they welcome further engagement on the feasibility of seagrass restoration as a project alone measure. As identified by the Applicants, the restoration of seagrass beds will likely improve seabird prey populations and therefore likely benefit seabird populations, however, the benefits of this measure will be difficult to quantify in terms of seabird productivity or survival. We agree that seagrass restoration may not be feasible as stand-alone measures but could add to a package of measures in a qualitative way. However, we are unable to come to a view based on the information provided. Should the Applicant need to rely on project specific compensation rather than their preferred option of the MRF, then we advise this measure is revisited.

G.1 Strategic Compensation Measures Fund Contribution

In the absence of the publication of the Sectoral Marine Plan for Offshore Wind Energy (anticipated post-elections 2026) we provide advice on project-specific compensation. We are aware there are several relevant projects and workstreams considering compensation delivery – at the plan or strategic level – being conducted across Scottish and UK Governments.

A Scottish Government Consultation on the Scottish Marine Recovery Fund (MRF), highlighted the opportunity for developers to contribute to this for the delivery of compensation measures to be identified in a Portfolio of Seabird Compensatory Measures. We have responded to the MRF consultation to ensure relevant, meaningful, high-quality measures are secured to address the biodiversity crisis, and particularly the decline of seabird populations.

We note the Applicant's preference to use this future MRF and in line with Scottish Government's interim guidance³¹, we also welcome the Applicant's consideration of project-specific compensation measures. Until the Scottish MRF is operational, we request ongoing involvement to advise on the ecological effectiveness of any project-specific compensation measures.

G.2 Predator eradication and biosecurity

The Applicant provides a literature review of the evidence surrounding the potential relevance of predator eradication and biosecurity measures to each of the species of interest. A short list of potential sites has been identified by the Applicant. The Applicant has provided an assessment of the mammalian predators present, the seabird species likely to benefit from predator eradication measures, the potential likelihood of success of such measures and an estimate of the potential cost of such measures for each site. Inchkeith (brown rat), Inchcolm (black rat) and Switha (brown rat) have been identified as having a high likelihood of success.

We reiterate the requirement to secure landowner/ land manager agreements, as well as any other consent requirements associated with any compensation measure.

G.2.1 Direct and Indirect impacts

The Applicant has provided a broad discussion of the potential direct and indirect impacts of predator eradication and biosecurity measures. These impacts include potentially positive effects for the species expected to benefit from the measures, including non-target seabird species nesting in areas accessible to the mammalian predators in question. The Applicant also suggests that small mammal populations may benefit from the removal of larger mammalian predators, such as cats or mink, if relevant.

The Applicant does not provide any further discussion of the potential direct and indirect impacts but does state that these impacts will be considered as the compensation measure is developed. We welcome further consideration of direct and indirect impacts.

The potential for species other than the targeted mammalian predator to be negatively directly affected by the control measures should be considered. For example, if lethal traps and/or poison are to be used, then the potential for other species to be caught in traps or consume the poison should be considered. Possible knock-on impacts to species that may consume the poisoned mammals should be considered as well.

The ecosystem level impacts of the removal of mammalian predators should also be considered. The Applicant mentions the potential for non-target small mammal populations to benefit from the removal of larger mammalian predators, and it would be useful for the Applicant to discuss what the potential knock-on effects of increasing small mammal populations may be, particularly in the context of seabird colonies.

As this compensation measure develops the Applicant should consider the potential site-specific indirect and direct impacts.

G.2.2 Pre-implementation monitoring

³¹ <https://www.gov.scot/publications/scottish-marine-recovery-fund-guidance/>

The Applicant proposes pre-implementation monitoring to establish the presence, distribution and density of predators on site and the evidence of predation on seabirds. Details are yet to be confirmed, but predator monitoring may include the use of remote, motion activated cameras, thermal drone surveys, and detection dogs. As above, we highlight the potential requirement for SSSI consent. Seabird demographic data (productivity, colony distribution and colony counts) will be used to establish a baseline, focussing on study plots. The Applicant proposes a minimum of two years of pre-implementation monitoring to account for interannual variability.

Overall, this approach to pre-implementation monitoring is acceptable. We welcome further discussion with the Applicant once additional details, particularly site-specific details, are available.

G.2.3 Annual Monitoring and Site Investigation Reports

The Applicant proposes that the methods and key results will form the basis of consultation meetings with the steering committee and landowners.

G.2.4 Post-eradication Monitoring

The Applicant proposes appropriate monitoring of predator presence throughout the lifetime of the project, with the details depending on the target mammal. This monitoring regime may include the monitoring of the presence of dead predator carcasses, the use of wax blocks, and motion activated cameras. The Applicant will use biosecurity measures to prevent reinvasion, using Biosecurity for Life Scotland project resources and tools to plan biosecurity. Seabird demographics will be used to monitor seabird responses post-implementation, using the same study plots as pre-implementation.

The Applicant states that post-eradication monitoring is planned to be done annually for two years, with the potential for further monitoring to be discussed.

We welcome further discussion with the Applicant once additional details, particularly site-specific details, are available. We would also suggest that the Applicant should consider whether the site/measure specific details will affect the number of years of post-eradication monitoring and the type of analysis needed to show whether the measure has significantly affected the seabird responses.

G.2.5 Success Criteria for Compensation Effectiveness

For offshore island sites the Applicant's success criteria could include the following:

- to achieve predator free status within two to three years of the eradication starting; and
- to maintain predator free status on islands through continued biosecurity.

It may be helpful for the Applicant to clearly define "predator free", and how this status will be evidenced, with reference to existing mammalian predator eradication and biosecurity projects (e.g. what predator monitoring methods will be used, and with what sampling effort and site coverage, and how long a time period with no evidence of predator presence is sufficient evidence of predator free status).

The key success criteria in relation to a positive response from impacted seabird species (and other non-target seabird species) should be agreed upon through engagement with stakeholders but could include: recolonisation of a site (if previously absent), increases in average annual breeding productivity and/or colony size increase, and colony distribution and extent increase.

As further details of the site-specific compensation projects become available, the Applicant should consider how pre- and post-eradication monitoring should be designed, and what analyses will be required in order to address the key success criteria listed above. For example, the criteria involving recolonisation and colony size, distribution and extent increases will likely take longer for changes to become apparent than changes to annual breeding productivity. Additionally, the pre- and post-eradication monitoring may also need to consider external factors which may affect the colony's demographic parameters (e.g. the effects of climate change).

G.2.6 Adaptive Management

The Applicant proposes that adaptive management measures could be implemented first through trialling small adjustments to the measure to increase the likelihood of success (e.g. changing types/locations of traps/bait). Next a review of other biosecurity measures could be implemented to deliver the required level of compensation. If this move is not sufficient, then the Applicant may consider requesting to participate in strategic/collaborative funding mechanisms and/or revisit other identified compensation measures.

With the detail currently available, this adaptive management plan is reasonable. As further detail becomes available, particularly site-specific detail, the Applicant should re-visit how adaptive management could be implemented if required.

G.3 Conservation Management Funding

Unfunded actions so as to meet the additionality requirements, from SPA or other protected site plans (e.g. wardening, vegetation clearance, litter removal, predator control, disturbance management, or habitat modification) may be identified and then supported by the Applicant.

The Applicant's proposed approach to the identification of potential sites is reasonable, first preferring measures at the sites impacted by the Project and carrying out a screening exercise to identify other potential sites if necessary. The planned stakeholder engagement is also appropriate. The outline of monitoring and adaptive management that has been provided is an appropriate foundation and refers to appropriate sources. The actual monitoring and adaptive management plans will need to be highly site and measure specific, and we welcome further discussion once more detail is available.

We would welcome discussion about potential compensation delivery once sites have been short-listed and site-specific details are available.

From: [Redacted]
To: [MD Marine Renewables](#)
Cc: [Redacted]
Subject: RE: 00011544, 00011545, 00011546 & 00011547 - MarramWind Ltd – MarramWind Offshore Wind Farm – EIA Section 36 consent and Marine Licence Applications - Consultation – Response Required by 6 March 2026
Date: 11 September 2026 13:34:41
Attachments: [image001.png](#)
[image002.png](#)
[image003.png](#)

Toni-Marie –

Thank you for setting out the clarification requests in your email below.

Berwick Bank impacts/ In combination assessment

Our advice on the MarramWind application was given immediately after the consent of Berwick Bank. At that time there was no agreement on the sufficiency of Berwick Bank's proposed Compensation Measures, and we advised they were insufficient.

MarramWind has only provided a 'with Berwick Bank' assessment scenario, which we accept as a precautionary assessment.

When considering MarramWind now - we advise that the following should be assessed:

- MarramWind impacts;
- in-combination with impacts from all other consented wind farms where those impacts are below the threshold of AEOSI; and
- in-combination with impacts from OWFs submitted prior to MarramWind, but not yet determined.

This is to ensure those impacts that up to this point have not yet required Compensation Measures have been identified for appropriate mitigation and compensation where required.

Impacts associated with ports

Our advice here aligns with recent similar discussions on marine SPAs in relation to Ossian, Muir Mhor, and Aspen proposals.

Our position is that it is not possible to fully assess impacts from vessel movements on marine SPAs, as the project has not yet identified which ports/ harbours will be used to service the proposed wind farm. We agree that these impacts can later be defined and managed via a Vessel Management Plan (VMP).

You have asked if we can broadly identify which QIs and which marine SPAs need to be considered.

Firstly, we consider the relevant groups of QIs to be:

- sea ducks
- divers
- grebes

Our rationale is that these groups of birds are very sensitive to impacts from vessel movements.

Secondly, we consider the relevant marine SPAs to be:

- Scapa Flow SPA
- Moray Firth SPA
- Outer Firth of Forth and St Andrews Bay Complex SPA

Our rationale for this list is based on the proposed location of MarramWind. In our view it is reasonable to assume that ports/ harbours used to service the project will be based on the east coast of mainland Scotland, or potentially on Orkney.

It is also reasonable to assume that ports/ harbours on Shetland, or on the north or west of mainland Scotland, or on the Inner or Outer Hebrides would not be selected to service this project. So, any marine SPAs located in these regions would not require consideration in this context.

Note that Ythan Estuary, Sands of Forvie and Meikle Loch SPA is a marine SPA on the east coast of mainland Scotland but in our view this site does not need to be considered here. Our rationale is that there is a negligible risk of vessels transiting through this SPA from any port due to its location and geographical extent.

Finally, we confirm that monitoring of relevant QIs from relevant marine SPAs and use of monitoring outcomes to inform the VMP is sufficient to conclude no AEOSI. We understand that Marine Directorate can secure this via condition and it is helpful to note that this approach was used for West of Orkney and Berwick Bank proposals, and we have recently supported this approach for Ossian and Muir Mhor proposals.

Impacts to Southern Trench NCMPA being mitigated post consent

Our advice on the impacts of underwater noise on the minke whale feature of the Southern Trench NCMPA recommended post-consent measures:

- Piling parameters to be refined further and a Piling Strategy to be secured;
- Seasonal restrictions to be considered; and
- The applicant contributes to strategic research on minke whale monitoring.

We now understand that this reliance on post-consent measures means that, at the point of determination, the MPA Assessment cannot rule out a significant risk of hindering the conservation objectives, and so MPA derogation would be triggered.

To avoid this outcome, we advise that activities which pose a risk of auditory injury should be subject to seasonal restrictions and secured via consent condition. These activities should be avoided during the peak season of minke whale activity, which spans June to October (inclusive).

UXO impacts

The issues raised by UXO clearance relate to the location of the clearance activities. The export cable corridor passes through Southern Trench NCMPA, and so UXO clearance within or near to the NCMPA carries a risk of auditory injury to the minke whale feature of the site.

All the best.

--

Malcolm Fraser (he/ him) | **Marine Sustainability Manager**

NatureScot | ^[Redacted] | 0131 316 2629

nature.scot | [@naturescot](https://twitter.com/naturescot) | Scotland's Nature Agency | Buidheann Nàdair na h-Alba

Natural England

Date: 02/03/2026
Our ref: 538819
Your ref: 00011544, 00011545, 00011546 & 00011547



Tyneside House,
Skinnerburn Road,
Newcastle-upon-Tyne,
NE4 7RA

0300 – 060 3900

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

Via email only

Dear Jennifer,

00011544, 00011545, 00011546 & 00011547 – MarramWind Ltd – MarramWind Offshore Wind Farm

Thank you for seeking our advice on MarramWind Offshore Wind Farm in your consultation which we received on 19/01/2026.

ELECTRICITY ACT 1989

The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017
The Electricity (Applications for Consent) Regulations 1990

MARINE (SCOTLAND) ACT 2010

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

MARINE AND COASTAL ACCESS ACT 2009

The Marine Works (Environmental Impact Assessment) Regulations 2007

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 outside English territorial waters then the advice from NatureScot, the statutory nature conservation body in offshore Scottish waters should be sought.

Due to our remit, our advice on this consultation is restricted to species within England and to protected species from English designated sites which may be impacted by the proposed wind farm.

We provide our advice based on the following documents:

- Report to Inform Appropriate Assessment, December 2025 (MAR-GEN-ENV-REP-WSP-000176)

The Conservation of Habitats and Species Regulations 2017 (as amended) and The Conservation of Offshore Marine Habitats and Species Regulations 2017 (as amended)

We have considered the documents provided with the consultation request in our review, and the measures proposed to mitigate for all identified adverse effects that could potentially occur as a result of the proposal. We advise that, providing there are no substantial changes to the project design envelope, this project alone will not have an Adverse Effect on Site Integrity (AEoSI) on any English SPA or SAC. We also agree that any addition to in combination impacts with other projects will be de-

minimis and as such are unlikely to significantly contribute to AEoSI for any English SPA or SAC in combination with the other Plans or Projects assessed.

Marine and Coastal Access Act 2009

The works, as set out in the information supplied by the applicant, are not sited within or near to a Marine Conservation Zone. Natural England have not identified a pathway by which impacts from the development would affect the interest features of any MCZ. We are therefore confident that the works will not hinder the conservation objectives of such a site.

Other Relevant Matters

Should the proposal be amended in a way which significantly affects its impact on the natural environment then, in accordance with Section 4 of the Natural Environment and Rural Communities Act 2006, Natural England should be consulted again.

For any queries relating to the content of this letter please contact me using the details provided below. To provide the further information requested in this advice and for subsequent consultations, please email consultations@naturalengland.org.uk

Yours sincerely

Dan Donald

Marine Higher Officer
Northumbria Marine Team
Email: [Redacted]

NATS

From: [NATS Safeguarding](#)
To: [MD Marine Renewables](#)
Cc: [Redacted] [NATS Safeguarding](#)
Subject: RE: 00011544, 00011545, 00011546 & 00011547 - MarramWind Ltd – MarramWind Offshore Wind Farm – EIA Section 36 consent and Marine Licence Applications - Consultation – Response Required by 3 March 2026
Date: 20 January 2026 10:33:59
Attachments: [image001.png](#)
[image002.png](#)

Jennifer,

NATS has previously expressed concern regarding the impact of the proposed MarramWind Offshore Wind Farm on our operations. In relation to this latest application to the Scottish Ministers NATS notes the statement in the Environmental Impact Assessment Report Volume 1, Chapter 31:

31.10.4.14 Consultation with NATS is ongoing with the aim of delivering a suitable mitigation solution for Allanshill and Perwinnes PSRs prior to the O&M stage of the Project

NATS will continue to engage with the developer with aim of identifying a suitable mitigation however until such time as this we have reached agreement NATS position remains one of objection to the proposed development.

NATS reference SG31442

Regards,

Alasdair

NATS Safeguarding

NATS Internal

Northern Lighthouse Board ("NLB")



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: MarramWind OWF – S36 Consent & ML Application
Our Ref: AL/OPS/ML/WIND_002_26

Ms Jennifer Goodheir
Licensing Operations Team – Marine Directorate
Scottish Government
Marine Laboratory
375 Victoria Road
Aberdeen
AB11 9DB

26 January 2026

ELECTRICITY ACT 1989

The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017
The Electricity (Applications for Consent) Regulations 1990

MARINE (SCOTLAND) ACT 2010

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

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 Marine Licences Under Part 4 of the Marine (Scotland) Act 2010 and Part 4 of the Marine & Coastal Access Act 2009 to Construct and Operate the MarramWind Offshore Wind Farm, Approximately 41nM Northeast of Rattray Head

Thank you for your e-mail correspondence dated 19th January 2026 relating to the application submitted by **MarramWind Ltd** for consent to develop the MarramWind Offshore Wind Farm, located approximately 41nM northeast of Rattray Head.

Northern Lighthouse Board note that the MarramWind OWF will consist of up to 225 floating Wind Turbine Generators (WTG) with an approximate export capacity of up to 3GW. A maximum of four Offshore Substation Platforms (OSP) will be installed within the array. Landfall sites for up to five offshore export cables have been identified at Scotstown and Lunderton, Aberdeenshire. It is noted that should these OEC utilise HVAC transmission technologies, up to two Reactive Compensation Platforms (RCP) will be required approximately midway along the OEC route.

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 have reviewed the documentation associated with the application, with particular reference to the navigational safety elements of the application contained within Chapter 15 (Shipping & Navigation), Chapter 18 (Infrastructure & Other Marine Users), Chapter 32 (inter-Related Effects), and Chapter 33 (Cumulative Effects Assessment).

The inclusion of Outline Post-Consent Documentation such as the Outline Lighting & Marking Plan (LMP) and Outline Vessel Management and Navigational Safety Plan (VM&NSP) is welcomed. NLB note the hazards identified through the Navigational Risk Assessment (NRA) process, and the associated mitigations detailed within Table 17.1 of the NRA.

Northern Lighthouse Board note that whilst Wet Storage is acknowledged within the EIA, it will be considered as part of a separate consenting process.

Within Section 5.2 of the Outline Lighting & Marking Plan, it is stated that monitoring of Aid to Navigation (AtoN) will be undertaken visually during the construction phase and remotely via a SCADA system during the O&M phase. In Section 5.3 it is stated that monitoring of AtoN during the construction phase will be undertaken remotely. **NLB advise that this discrepancy is corrected.**

NLB request that within Section 5.4 of the Outline L&M Plan, it is included that a record of the annual AtoN testing is kept for auditing purposes.

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 this wording is amended to include alternative solutions such as temporary buoyage or AtoN deployed on adjacent WTG structures.**

Northern Lighthouse Board request that a section is included within the LMP to cover situations whereby an IPS/SPS structure is removed for maintenance, and the provision of temporary AtoN to cover this maintenance period.

It is also requested that the maintenance of AtoN is included with the O&M Manual, and that the LMP is referenced where necessary.

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).

NLB operate vessels in the Central North Sea as part of their statutory duties under the Merchant Shipping Act 1995. However, this is largely for the inspection of AtoN installed on offshore installations. Aids to Navigation associated with MarramWind OWF would be incorporated in to these inspection voyages, and NLB do not anticipate that the project will negatively impact these operations.

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/

Northern Lighthouse Board have no objection to the proposed MarramWind OWF, and will continue to engage with the applicant with regard to the development of post-consent navigational safety documentation.

Yours sincerely

[Redacted]

Peter Douglas
Navigation Manager

North Sea Midstream Partners Operations Limited



5th Floor, 28-29 Dover Street
London
W1S 4NA

Marine Directorate
Licensing Operations Team
Scottish Government
375 Victoria Road
Aberdeen
AB11 9DB

Sent by email to: MD.MarineRenewables@gov.scot

02 March 2026

Dear Sirs

Marram Wind Farm

Application for consent under section 36 of the Electricity Act 1989 and for marine licences under section 20 of the Marine (Scotland) Act 2010 and section 65 of the Marine and Coastal Access Act 2009

We refer to the above noted application by MarramWind Limited to Scottish Ministers and note that the proposed development is subject to an environmental impact assessment ("EIA") under the regulations detailed in the Public Notice.

NSMP Operations Limited ("**NSMP**") owns the St. Fergus Gas Terminal ("**SFGT**") and PX Limited is our site operations and maintenance contractor.

The FUKA and Vesterled gas transportation pipelines land at SFGT for processing. NSMP owns and operates the FUKA pipeline and SFGT. Petoro AS owns the Vesterled pipeline and it is operated by Gassco AS. NSMP operates a portion of the Vesterled pipeline onshore at SFGT.

In accordance with the Public Notice, NSMP requests that the Scottish Ministers take into the account the comments noted below when deciding this application:

1. SFGT is designated as a national development by National Planning Framework 4 and protected by local development policy PR2 Reserving and Protecting Important Development Sites.
2. The application is not currently supplied with sufficiently detailed information to allow us to make a full assessment. However, NSMP does not object to the principle of this development.
3. We note that the FUKA and Vesterled gas transportation pipelines are within the Offshore Red Line Boundary.



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Sent by email to: MD.MarineRenewables@gov.scot

02 March 2026

Dear Sirs

Marram Wind Farm

Application for consent under section 36 of the Electricity Act 1989 and for marine licences under section 20 of the Marine (Scotland) Act 2010 and section 65 of the Marine and Coastal Access Act 2009

We refer to the above noted application by MarramWind Limited to Scottish Ministers and note that the proposed development is subject to an environmental impact assessment ("EIA") under the regulations detailed in the Public Notice.

NSMP Operations Limited ("**NSMP**") owns the St. Fergus Gas Terminal ("**SFGT**") and PX Limited is our site operations and maintenance contractor.

The FUKA and Vesterled gas transportation pipelines land at SFGT for processing. NSMP owns and operates the FUKA pipeline and SFGT. Petoro AS owns the Vesterled pipeline and it is operated by Gassco AS. NSMP operates a portion of the Vesterled pipeline onshore at SFGT.

In accordance with the Public Notice, NSMP requests that the Scottish Ministers take into the account the comments noted below when deciding this application:

1. SFGT is designated as a national development by National Planning Framework 4 and protected by local development policy PR2 Reserving and Protecting Important Development Sites.
2. The application is not currently supplied with sufficiently detailed information to allow us to make a full assessment. However, NSMP does not object to the principle of this development.
3. We note that the FUKA and Vesterled gas transportation pipelines are within the Offshore Red Line Boundary.



This is consistent with the statement at Paragraph 18.6.1.15 of Chapter 18 of the EIA which identifies that there are multiple pipelines converging towards the north shoreline of the Offshore Red Line Boundary. This is illustrated at Volume 2 Figure 18.6 of the EIA, an extract of which is attached.

Accordingly, if the Scottish Ministers decide to grant permission, NSMP requests that the Scottish Ministers impose conditions requiring the applicant to consult with NSMP on any aspects of the development (including construction or proposed vessel routes) within 500m of FUKA and/or Vesterled pipelines so that appropriate contractual arrangements for asset protection and cooperation can be discussed.

We will share details of this consultation with Gassco AS in its capacity as operator of the Vesterled pipeline.

We kindly request that any further correspondence on this matter is directed to:

[Redacted]

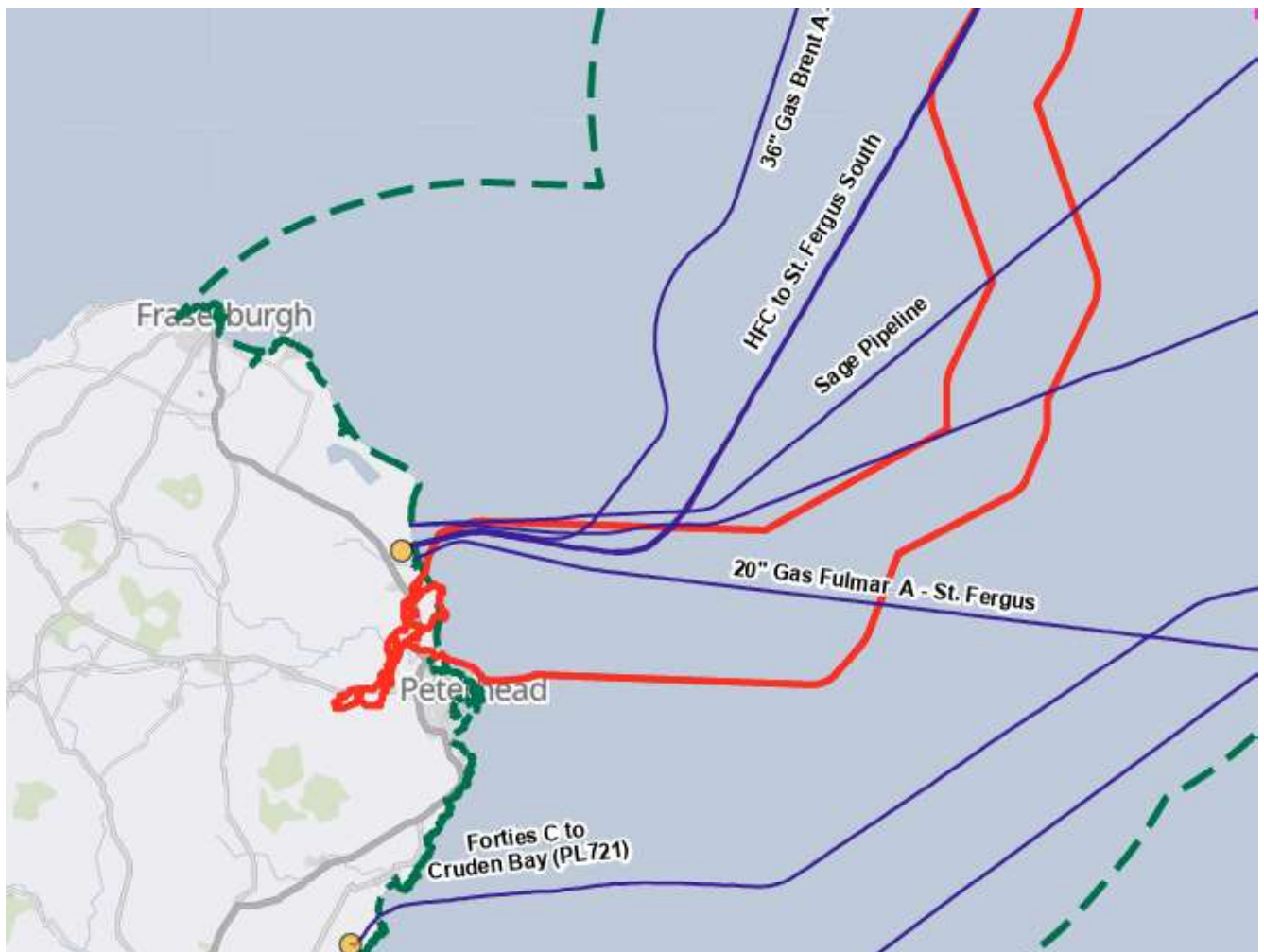
Yours sincerely

[Redacted]

Stuart Horne
Asset Director - SFGT
NSMP Operations Limited

Attachment

**Extract of EIA Chapter 18
Volume 2 Figure 18.6**



Oil and Pipelines Agency

From: [Info](#)
To: [MD Marine Renewables](#)
Cc: [Redacted]
Subject: RE: 00011544, 00011545, 00011546 & 00011547 - MarramWind Ltd – MarramWind Offshore Wind Farm – EIA Section 36 consent and Marine Licence Applications - Consultation – Response Required by 3 March 2026
Date: 26 January 2026 11:06:55
Attachments: [image002.png](#)
[image004.png](#)
[image005.png](#)

Good morning,

Thank you for your email dated 19 January 2026 regarding the MarramWind Offshore Wind Farm consultation. After reviewing the details, we have determined that, given the offshore nature of the development, there should be no impact on the sites that are operated and managed by the Oil and Pipelines Agency in Scotland.

We thank you for taking the time to bring this matter to our attention.

Kind regards

Grace Buckley

OPA Secretariat



Head Office: St George's House, Weevil Lane, Gosport PO12 1AP

t: 020 7420 1670 **w:** <http://www.gov.uk/opa>

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Royal Society for the
Protection of Birds Scotland
("RSPB Scotland")



Jennifer Goodheir
Consenting and Licensing Casework Manager
Licensing Operations Team – Marine Directorate
Scottish Government
Victoria Quay
Edinburgh
EH6 6QQ

By email: MD.MarineRenewables@gov.scot

14 April 2026

Dear Jennifer

APPLICATION FOR CONSENT UNDER SECTION 36 OF THE ELECTRICITY ACT 1989 AND MARINE LICENCES UNDER PART 4 OF THE MARINE AND COASTAL ACCESS ACT 2009 TO CONSTRUCT AND OPERATE MARRAM OFFSHORE WIND FARM, APPROXIMATELY 75 KM FROM THE NE COAST OF SCOTLAND

Thank you for consulting RSPB Scotland on the above application to construct and operate an offshore windfarm (of up to 3GW generating capacity), off the north east coast of Scotland and for agreeing to an extension of time in which to submit our response.

RSPB Scotland recognises that climate change is the greatest long-term threat to nature and people, and we fully support the need to develop more renewable energy, including offshore wind. However, any development, including offshore wind, must be carefully sited, designed and deployed to ensure that there are not unacceptable impacts on nature.

General Comments

It must be recognised by MD-LOT in their recommendation to Ministers that models are simplified versions of reality. They do not fully capture the nuances of our dynamic natural environment, the complex behaviours of seabirds or the interlinkages between the two. Models are not complete evaluations of the possible risks that windfarms pose to seabirds. Seabirds are relatively long-lived, tend to breed later and have fewer young than other birds and, as a result, their populations are sensitive to even the smallest increases in adult mortality. This fact, combined with the requirements of the Habitats Regulations, emphasises the requirement to take a precautionary approach when assessing all possible impacts of the proposed development.

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The RSPB is part of BirdLife International, a network of passionate organisations, working together to save nature across the world.

Patron: His Majesty The King **President:** Dr Amir Khan **Director, RSPB Scotland:** Anne McCall.

The Royal Society for the Protection of Birds (RSPB) is a registered charity: England and Wales no. 207076, Scotland no. SC037654. Registered address: The Lodge, Potton Road, Sandy, Bedfordshire, SG19 2DL

The survival and productivity rates of seabirds can be impacted by offshore windfarms directly (i.e. through collision) and indirectly (e.g. displacement from foraging areas and additional energy expenditure required to avoid and due to additional flying distances to alternative foraging areas). They are also already under severe pressure. In Scotland, the number of breeding seabirds has declined by 49% since the 1980s, according to the Scottish biodiversity indicator¹. Kittiwake and Puffin are red listed as Birds of Conservation Concern while Northern Gannet, Razorbill and Guillemot are amber listed. In addition, in 2019 they were assessed as moving away from the target to achieve Good Environmental Status².

MarramWind is a large and significant project and there are numerous seabird colonies in the area, many of which are designated as Special Protected Areas (SPA) due to supporting one or more rare, threatened, or vulnerable bird species as listed in Annex I of the Birds Directive or regularly occurring migratory species. Decision makers are subject to legal protections under the Habitats Regulations before they determine any proposal which could have an impact on any European Site (SAC or SPA). The conservation objective for each SPA aim to protect these internationally important sites, from a number of impacts, including disturbance to the qualifying species of the sites, and deterioration of those sites and their species. Due to the nature and location of the proposal there are likely significant effects on a number of European Sites. Therefore, the Competent Authority (in this case Scottish Ministers as decision maker) is required by Habitat Regulations to undertake an Appropriate Assessment of the effects of the proposal on the SPAs and their species in light of the sites' conservation objectives.

RSPB Scotland agrees with the Applicant's assessment of potential Adverse Effects on Site Integrity (AEoSI) on a 'project alone' basis for Guillemot at Buchan Ness to Collieston Coast SPA. We also agree with the Applicant's assessment of potential Adverse Effects on Site Integrity (AEoSI) arising from the project 'in combination' with other North Sea wind farms for Guillemot at Buchan Ness to Collieston Coast SPA, Troup, Pennan and Lion's Head SPA and Copinsay SPA.

RSPB Scotland has, however, reviewed the in-combination ornithological assessment presented in the MarramWind Report to Inform the Appropriate Assessment (RIAA) and considers that it significantly underestimates the risk of adverse effects on the integrity of affected SPAs. The Applicant's own assessment is unable to rule out AEoSI for the features identified above (Guillemot at Buchan Ness to Collieston Coast SPA, Troup, Pennan and Lion's Head SPA and Copinsay SPA). We also note that the Applicant accepts the potential for risk in relation to 8 other sites and their inclusion on a without prejudice basis. When the full range of NatureScot approved guidance scenarios are applied to the 27 species-SPA combinations taken to Population Viability Assessment (PVA) level, predicted in-combination population declines are identified across a substantially wider range of species and SPA features than the Applicant acknowledges. These include Kittiwake and Gannet populations at multiple SPAs under both guidance scenarios, and additional Kittiwake, Guillemot, Razorbill and Puffin populations under the upper guidance scenario. RSPB Scotland considers that predicted declines of this magnitude across so many SPA features represent a serious risk to their long-term integrity.

RSPB Scotland **objects** to the Application due to predicted in-combination effects, (and the fact that we do not believe that sufficient, appropriate compensations exists for these effects) resulting in adverse effects on the site integrity of the following SPAs and qualifying species:

¹ [The Marine Strategy Regulations 2010 \(legislation.gov.uk\)](https://legislation.gov.uk)

² [Scottish Biodiversity Indicator – The Numbers and Breeding Success of Seabirds \(1986 to 2019\)](#)

Black Legged Kittiwake at the following SPAs:

- Buchan Ness to Collieston Coast SPA
- East Caithness Cliffs SPA
- Forth Islands SPA
- Fowlsheugh SPA
- St Abb's Head to Fast Castle SPA
- West Westray SPA

Gannet at the following SPA:

- Forth Islands SPA

RSPB Scotland is of the view that it is not possible to rule out AEoSI under the upper guidance scenarios for:

Guillemot at the following SPAs:

- Buchan Ness to Collieston Coast SPA
- Troup, Pennan and Lion's Head SPA
- Copinsay SPA

Razorbill at the following SPA

- East Caithness Cliffs

Puffin at the following SPA:

- North Caithness Cliffs SPA

Due to the proposed development's predicted AEoSI on several SPAs, further tests apply after the appropriate assessment has been undertaken before a decision can be made. Under the Habitats Regulations, a project which cannot conclude that there would be no adverse impacts on the site integrity of European protected sites cannot be permitted unless it can be demonstrated there are no lesser damaging alternative solutions, there are imperative reasons of overriding public interest (IROPI) for the project to go ahead, In the event of the no alternative solutions and imperative reasons of overriding public interest tests being satisfied, the competent authority must secure any necessary compensatory to ensure that the overall coherence of the UK Site Network is protected. European sites are amongst the most important sites for wildlife and as such it is right that maintaining them in favourable conservation status and protecting them from development carries a high weight in decision making.

It is important to add that in addition to the requirements set out above, in relation to both inshore marine area and the offshore marine area, the Competent Authority, in this case Scottish Ministers, must exercise its functions so as to secure compliance with the requirements of the Habitats Directive and the Birds Directive as set out in regulations 9 and 10, Habitats Regulations. The Competent Authority they must take such steps as it considers appropriate to secure the preservation, maintenance and re-establishment of a sufficient diversity and area of habitat for wild birds, having regard to the requirements of Article 2 of the Birds Directive. For offshore SPAs and SACs Regulation 26, Offshore Habitats Regulations requires Competent Authorities to exercise their functions (as far as possible) to secure steps to avoid the disturbance of species and the deterioration of habitats or habitats of species within those sites.

In the event that the Scottish Government accepts that there are no suitable alternative solutions, and that the development must be consented for Imperative Reasons of Overriding Public Interest, it is vital the most rigorous assessment of the suitability and

efficacy of the compensation measures proposed and requires rigorous application of any agreed compensation in the interests of ensuring the overall coherence of the UK Sites Network. Nothing less than this would be acceptable.

Under the Conservation Habitats and Species Regulations 2017 compensatory measures only enter the equation when it has been determined that there will be adverse effects on the integrity of the site (under regulation 63) or there is a lack of certainty as to the absence of adverse effects and the need for the Competent Authority to decide whether consent should be granted under regulation 64.

If compensation measures have been required for a project, then that project has been identified as giving rise to potential adverse impacts on the integrity of a European protected site. Therefore, potential adverse effects from other developments are also relevant when considering whether a later project :

- Would have a likely significant effect on a European site, whether on its own or in combination with other plans and projects, and subsequently
- Whether the Competent Authority can be satisfied that there will not be adverse effects on the integrity of the European site whether taken alone or in combination with other projects.

We have serious concerns that in considering the in-combination effects for this proposal, the scenario presented in this application has assumed that there would be full and effective compensation for other projects (including Berwick Bank Offshore Windfarm). We do not believe that there is any evidence that this level of compensation is available.

It is difficult to see on what basis the fact that compensation has been provided for potential adverse effects of the earlier schemes should mean that the effects of those schemes should be removed from the equation when carrying out the assessments required by regulation 63 for a later scheme. Although it may be relevant when considering whether consent should be granted under regulation 64 for the later scheme and/or what compensation measures should be required at that stage, it is not appropriate to consider it in the assessment under Regulation 63.

RSPB Scotland notes the proposed compensation put forward by the applicant and submitted with the Application, comprising:

- (i) Strategic compensation measures, which may include the following:
 - predator control and biosecurity;
 - habitat management and restoration, and reduction of disturbance at colony;
 - fisheries management compensatory measures;
 - restoring and enhancing supporting prey habitats; and
 - marine litter removal at scale.
- (ii) Predator eradication and biosecurity (in collaboration with other developers); and
- (iii) Conservation management funding.

Commentary on, and analysis of, these proposed compensation measures is attached to this letter as an Appendix 2. In summary, it is RSPB Scotland's clear opinion that these compensation measures are not appropriate at this point in time. With the exception of Table 5.1 within applicant's compensation report relating to predator eradication, the measures proposed are largely generic and not specifically addressing potential impacts from the proposed development.

We have several concerns about the predator control measures. There are some figures provided as to the likely cost of eradication at a number of islands, including some significant ones. However, much more detail would be required on the level of predators at these sites and the practical ability to carry out and to monitor, adapt and maintain such significant programmes. However, given the lack of detail, we are not assured that these measures can compensate for the possible harm arising from the application. Overall, a wide range of measures are referenced that are likely to be Tier 2 of 3 measures within the upcoming Strategic Compensation Framework including restoration of seagrass. However, such measures have little connection to the SPA colonies affected and if considered at all it should be as a last resort.

We would strongly recommend that the developer utilises the strategic approach to compensation through the Marine Recovery Fund when this becomes available. If project-based measures continue to be pursued, then a much greater level of detail and certainty around exactly what the measures are and where they would be carried out is critically required to demonstrate their efficacy and quantitative suitability as compensation under the Habitat Regulation tests. We have very limited capacity to engage in project level measures given the number of proposals asking similar questions and seeking similar solutions at the same places. The developer must improve the proposed compensation measures to ensure that they are as effective ecologically, financially and legally, and are as close as possible to the affected colonies, thus ensuring the coherence the UK Sites Network.

Summary

RSPB Scotland does not object to the proposed Development in isolation. However, due to significant and unacceptable impacts resulting from the recently approved Berwick Bank windfarm, for which we believe it is not possible to find an adequate degree of compensation, the in-combination effects of the Proposed Development together with Berwick Bank and other North Sea offshore wind farms would be unacceptable. We therefore object to the in-combination impacts of the Proposed Development. This position has been informed by our opinion that the risk of adverse effects has been underestimated. It appears that the scenario assumes the full compensation for other projects, the compensation measures as they stand are not sufficiently well developed and that too great a reliance is placed upon these issues being designed and detailed post decision by using a condition on any consent. It is our expert opinion that significant further work is required on the compensation proposals before any consent could be issued in line with the Habitat Regulations.

Should you require any further information or clarification, please do not hesitate to get in contact.

Yours sincerely

[Redacted]

Andrew Tait
Senior Conservation Planner, RSPB Scotland

Appendix 1 Ornithological assessment
Appendix 2 Commentary on compensation measures

Appendix 1

Marram Offshore Windfarm Application

Detailed Response by the Royal Society for the Protection of Birds

1. Legislative and policy background

Introduction

1.1. In accordance with the requirements of the Marine (Scotland) Act 2010 when considering an application and making a recommendation to Ministers, MD-LOT must consider the extent to which the proposed activity accords with any marine plan for an area and the impact that it would have on the environment, human health, and other legitimate users of the sea as well as other matters considered relevant.

Policy position

1.2. Scotland's National Marine Plan¹ (NMP) (adopted 2015) sets out the strategic policies for sustainable development in both the Scotland inshore region (0 to 12 nautical miles) and within the Scottish Offshore region (12 to 200 nautical miles).

1.3. A core aim of marine planning, as set out by the NMP, is to manage human impact on the marine environment. The plan therefore seeks to put the marine environment at the heart of the planning process and adopt the principles of sustainable development. The environmental, social, and economic policies of the plan are intended to be complementary with one another as elements of sustainability.

1.4. Through policy GEN 9 (Natural Heritage), the NMP requires that development and use of the marine environment complies with legal requirements for protected areas and protected species, not result in significant impact on the national status of priority marine features and protect, and where appropriate, enhances the health of the marine area. It also encourages a strategic approach to mitigation of potential and cumulative impacts, stating these forms an integral part of marine planning and decision making.

1.5. Renewables specific policies within the NMP direct commercial scale development to the plan options areas (as identified in the Sectoral Marine Plan) and require applications to demonstrate compliance with the Environmental Impact Assessment (EIA) and Habitat Regulations Appraisal (HRA) legislative requirements.

1.6. Since the adoption of the NMP, Scottish Government has further recognised that net zero and energy goals will have impacts on the environment, specifically marine biodiversity, as well as other users of sea. In particular, the draft Energy Strategy and Just Transition Plan (2023), recognises the potential impacts on biodiversity arising from the major expansion in offshore wind. It contains a commitment to work in a way that recognises this reality and ensures appropriate protection of the natural environment as part of a joined-up approach to tackling the climate and nature crisis.

1.7. This follows the approach of the National Planning Framework 4 which, in policy 1 clearly sets the expectation that significant weight will be given to the global climate and nature

crises when considering all development proposals. Although this document is not directly applicable to marine development, it is applicable to onshore elements and RSPB Scotland believe it is a relevant consideration, albeit one with limited weight, for development offshore.

The Habitats Regulations

1.8. The Habitats Regulations seek to conserve particular habitats and species across the UK. The overall aim of these Regulations is to ensure the long-term survival of viable populations of the UK's most valuable and threatened species and habitats, throughout their natural range and to maintain and promote biodiversity.

1.9. These Directives have been transposed into UK legislation and, relevant to this application are:

1.9.1. The Conservation (Natural Habitats, &c.) Regulations 1994 (as amended) ("the 1994 Regulations") - applies on land in Scotland, and in Scottish inshore waters (the area of sea adjacent to Scotland from 0 to 12 nautical miles);

1.9.2. The Conservation of Habitats and Species Regulations 2017 -applies to specific reserved and devolved activities on land in Scotland, and in Scottish inshore waters, including for consents under sections 36 and 37 of the Electricity Act 1989; and

1.9.3. The Conservation of Offshore Marine Habitats and Species Regulations 2017 -applies to all UK offshore waters (the area of sea beyond 12 nautical miles).

1.10. These are referred to as "the Habitats Regulations" in this submission.

1.11. In Scotland, 162 Special Protection Areas (SPAs) have been classified. These have been specifically identified and protected due to supporting one or more rare, threatened, or vulnerable bird species as listed in Annex I of the Birds Directive, or regularly occurring migratory species.

1.12. Although the UK has withdrawn from the EU, the aims and objectives (as set out in the Habitats and Birds Directives recitals/preambles) remains relevant and important as discussed below. SPAs are protected in Scotland and the rest of the UK, and the standard of protection and requirements has not changed.

1.13. There have however been some changes to terminology and process due to Brexit. Of relevance to this submission is that the EU-wide network of SPAs and SACs known as "Natura 2000" Network post Brexit, no longer is of legal relevance. However, the UK-wide network of protected sites is, and is referred to as the "UK site network". In addition, references in the Habitats Regulations to the "coherence of Natura 2000" must now be read as references to the coherence of the UK/National site network.

1.14. Using *the Conservation of Habitats and Species Regulations 2017* (since all Habitats Regulations have identical requirements), the Regulations set out the sequence of steps to be taken by the competent authority (here the Scottish Ministers) when considering authorisation for a project that may have an impact on a European site and its species before deciding to authorise that project. These are as follows:

- Step 1: consider whether the project is directly connected with or necessary to the management of the SPA and its species (regulation 63(1)). If not –

- Step 2: consider, on a precautionary basis, whether the project is likely to have a significant effect on the SPA and its species, either alone or in combination with other plans or projects (the Likely Significance Test) (regulation 63(1)).
- Step 3: make an appropriate assessment of the implications for the SPA and its species in view of its conservation objectives. There is no requirement or ability at this stage to consider extraneous (non-conservation e.g. economics, renewable targets, public safety etc) matters in the appropriate assessment (regulation 63(1)).
- Step 4: consider whether it can be ascertained that the project will not, alone or in combination with other plans or projects, adversely affect the integrity of the SPA and its species, having regard to the manner in which it is proposed to be carried out, and any conditions or restrictions subject to which that authorisation might be given (the Integrity Test) (regulation 63(6)).
- Step 5: In light of the conclusions of the assessment, the competent authority shall agree to the project only after having ascertained that it will not adversely affect the integrity of the SPA, alone or in combination with other plans or projects (regulation 63(5)).
- Step 6: only if the competent authority is satisfied that, there being no alternative solutions and the plan or project must be carried out for imperative reasons of overriding public interest (which, subject to regulation 64(2)), may be of a social or economic nature), they may agree to the plan or project notwithstanding a negative assessment of the implications for the European site (regulation 64(1)).
- Step 7: in the event of the no alternative solutions and imperative reasons of overriding public interest tests being satisfied, the Scottish Ministers must secure that any necessary compensatory measures are taken to ensure that the overall coherence of the Natura 2000 network is protected (regulation 68).

It is vital that the precautionary approach required by the Habitats Regulations is taken. This means if scientific data is incomplete or hard to get and it is not possible to complete a full evaluation of all possible or potential risks an activity/development may cause, account should be taken of all possible harm. Potential harm should not be dismissed due to the lack of scientific data. Importantly, the precautionary principle requires the Applicant to demonstrate with scientific certainty that something would not be harmful. The concept of something being overly precautionary dismisses the inherent uncertainty in modelling and overlooks the simplistic version of reality that the modelling captures.

1.15. It is important to add that in addition to the requirements set out above, in relation to both inshore area and the offshore marine area, any competent authority must exercise its functions so as to secure compliance with the requirements of the Habitats Directive and the Birds Directive; and in particular to take such steps as it considers appropriate to secure the preservation, maintenance and re-establishment of a sufficient diversity and area of habitat for wild birds, having regard to the requirements of Article 2 of the Birds Directive.⁷ And for offshore SPAs regulation 26, Offshore Regulations requires competent authorities to exercise their functions (as far as possible) to secure steps to avoid the disturbance of species and the deterioration of habitats or habitats of species within those sites.

Appropriate assessment

1.17. As part of the assessment requirements, regulation 63, Habitats Regulations (regulation 28, Offshore Regulations) require the application of the precautionary principle. Meaning that if it

cannot be excluded, on the basis of objective scientific information, that it is likely to have a significant effect on a SPA and its species, an appropriate assessment will be required: see *Waddenzee*¹.

1.18. Following that appropriate assessment, a project may only be granted consent if the competent authority is convinced that it will not have an adverse effect on the integrity of the European site(s) and their species of concern, having applied the precautionary principle and taken account of the conservation objectives for those sites and their habitats and species. *Waddenzee* confirmed that where doubt remains as to the absence of adverse effects on the integrity of the site, approval should be refused (subject to the considerations of alternative solutions, imperative reasons of overriding public interest and the provision of compensatory measures as set out in regulations 64 & 68).

1.19. An appropriate assessment requires all aspects of the project which could affect the site, its species and its conservation objectives to be identified in the light of the best scientific knowledge in the field. The competent authority,

“taking account of the conclusions of the appropriate assessment of the implications...for the site concerned, in the light of the conservation objectives, are to authorise such activity only if they have made certain that it will not adversely affect the integrity of the site. That is the case where no reasonable scientific doubt remains as to the absence of such effects”.

1.20. Integrity of the SPA should be considered as the coherence of the site’s ecological structure and function, across its whole area, or the habitats, complex of habitats and/or populations of species for which the site is classified. A site can be described as having a high degree of integrity where the inherent potential for meeting site conservation objectives is realised, the capacity for self-repair and self-renewal under dynamic conditions is maintained, and a minimum of external management support is required. When looking at the ‘integrity of the site’, it is therefore important to take into account a range of factors, including the possibility of effects manifesting themselves in the short, medium and long-term.

1.21. As is clear from the requirements of the Habitats and Offshore Regulations, the assessment of integrity is to be considered by reference to the impact of the project alone and in-combination with other plans and projects, taking account of the site(s) conservation objectives. As clearly set out in *Waddenzee*, para 61:

*“61 In view of the foregoing, the answer to the fourth question must be that, under Article 6(3) of the Habitats Directive, **an appropriate assessment of the implications for the site concerned of the plan or project implies that, prior to its approval, all the aspects of the plan or project which can, by themselves or in combination with other plans or projects, affect the site’s conservation objectives must be identified in the light of the best scientific knowledge in the field.** The competent national authorities, taking account of the appropriate assessment of the implications of mechanical cockle fishing for the site concerned in the light of the site’s conservation objectives, are to authorise such an activity only if they have made certain that it will not adversely affect the integrity of that site. That is the case where no reasonable scientific doubt remains as to the absence of such effects.”* (emphasis added)

In-Combination effects and compensation for other schemes

¹ CJEU Case-127/02; [2004] ECR-7405 at [45]

1.22. Compensatory measures only enter the equation when it has been determined that there will be adverse effects on the integrity of the site (under regulation 63) or there is a lack of certainty as to the absence of adverse effects and the need for the competent authority to decide whether consent should be granted under regulation 64.

1.23. It therefore follows that if compensation measures have been required for a project then that project has been identified as giving rise to potential adverse impacts on the integrity of a protected site. Therefore, potential adverse effects from that project are also relevant when considering whether a later project is:

- likely to have a significant effect on a designated site, whether on its own or in combination with other plans and projects, and subsequently
- whether the competent authority can be satisfied that there will not be adverse effects on the integrity of the European site whether taken alone or in combination with other projects.

1.24. It is difficult to see on what basis the fact that compensation has been provided for potential adverse effects of the first scheme should mean that the effects of that scheme should be removed from the equation when carrying out the assessments required by regulation 63 for a later scheme, although it may well be relevant when considering whether consent should be granted under regulation 64 for the second scheme and/or what compensation measures should be required at that stage. There are two points we would stress in that context:

Firstly, the admonition of AG Sharpston in *Sweetman (No 1)* at AG47. To exclude the adverse effects of scheme one when considering whether a later scheme would be likely to have significant effects / would not have an adverse effect on the integrity of a protected site in combination with other projects would seem to risk perpetuating the “death by a thousand cuts” phenomenon discussed in that case; and

Secondly, the uncertainty as to the effectiveness of measures that are designed to compensate for (for example) loss of habitat rather than to mitigate the harm which might otherwise be *caused*: see C-164/17 *Grace v Sweetman* at 52-3.

1.25. Such an approach would also seem inconsistent with the clear ruling of the CJEU in C-164/17 *Grace v Sweetman* that *compensatory* measures should not be taken into account at the Article 6(3) stage when carrying out an appropriate assessment for a particular project. It is difficult to see why the compensatory measures associated with an earlier scheme could, therefore, be taken into account (by effectively removing the adverse effects of scheme 1 from consideration) where the competent authority is deciding on a later scheme whether it was likely to have significant effects or would / would not have adverse effects on the integrity of the site in combination with other projects. We set out the material passages from that decision out below for ease of reference:

“50 In that regard, the Court has previously ruled that the measures provided for in a project which are aimed at compensating for the negative effects of the project cannot be taken into account in the assessment of the implications of the project provided for in Article 6(3) of the Habitats Directive...

51 It is only when it is sufficiently certain that a measure will make an effective contribution to avoiding harm, guaranteeing beyond all reasonable doubt that the project will not adversely affect the integrity of the area, that such a measure may be taken into consideration when the appropriate assessment is carried out.

52 As a general rule, any positive effects of the future creation of a new habitat, which is aimed at compensating for the loss of area and quality of that habitat type in a protected area, are highly difficult to forecast with any degree of certainty or will be visible only in the future.

53 It is not the fact that the habitat concerned in the main proceedings is in constant flux and that that area requires ‘dynamic’ management that is the cause of uncertainty. In fact, such uncertainty is the result of the identification of adverse effects, certain or potential, on the integrity of the area concerned as a habitat and foraging area and, therefore, on one of the constitutive characteristics of that area, and of the inclusion in the assessment of the implications of future benefits to be derived from the adoption of measures which, at the time that assessment is made, are only potential, as the measures have not yet been implemented. Accordingly, and subject to verifications to be carried out by the referring court, it was not possible for those benefits to be foreseen with the requisite degree of certainty when the authorities approved the contested development.

54 The foregoing considerations are confirmed by the fact that Article 6(3) of the Habitats Directive integrates the precautionary principle and makes it possible to prevent in an effective manner adverse effects on the integrity of protected areas as a result of the plans or projects being considered.”

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

1.26. These EIA requirements state that consent cannot be granted for Environmental Impact Assessment (EIA) development unless the decision-maker has taken into account environmental information including an environmental statement which describes the significant effects, including cumulative effects, of the development on the environment. This will include effects on all wild bird species whether SPA species or not.

1.27. Offshore wind farms have the potential to impact on birds through collision with rotating blades, direct habitat loss, disturbance from construction activities, displacement during the operational phase (resulting in loss of foraging/roosting area) and impact on bird flight lines (i.e. barrier effect) and associated increased energy use by birds for commuting flights between roosting and foraging areas. These additional potential impacts must be taken into account.

The UK Marine Strategy Regulations and Good Environmental Status

1.28. Also of relevance to achieving sustainable development in our seas is the Marine Strategy Framework Directive². This was developed in response to concerns that although existing legislation protected the sea from some specific impacts, it was sectoral and fragmented. To overcome this, the directive seeks to reduce impacts on marine waters regardless of where impacts occur by applying an ecosystem approach.

1.29. Applying an ecosystem approach is important. Our natural environment is complicated, and the outcome of an impact may manifest elsewhere. It also feeds into the concept of sustainable development and the vision for clean, healthy, safe, productive, and diverse seas; managed to meet the long-term needs of nature and people as set out Scotland’s National Marine Plan.

1.30. The Marine Strategy Framework Directive was transposed into UK law by the Marine Strategy Regulations 2010. It requires the UK to put in place the necessary management measures to achieve ‘Good Environmental Status’ (GES) in UK seas by 2020. This involves protecting the marine

² EU Council Directive 2008/56/EC

environment, preventing its deterioration, and restoring it where practical alongside using marine resources sustainably. As with the Habitats Regulations, although the UK has withdrawn from the EU, the legislative requirement for GES remains in place.

1.32. Governments of the UK have collectively failed to meet 11 out of the 15 indicators of Good Environmental Status (GES) for our seas with the marine bird indicator moving away from target. For breeding seabirds, more species, especially surface feeders who depend on small fish at the surface (35% in the Greater North Sea), are now experiencing frequent, widespread breeding failures. The reduced availability of small fish is largely responsible for these declines and impacts on breeding success.

Section summary

1.33. Taken together, there is a clear legal and policy requirement to protect the marine environment and deliver sustainable development. The UK Marine Strategy is clear in its aims of improving the state of the marine environment through taking a large scale, holistic approach. Therefore, proposals which further impact the ability of the UK to achieve GES should be considered carefully. The ability of an application to comply with the vital requirements of the Habitats Regulations which seek the long-term survival of viable populations of Europe's most valuable and threatened species and habitats, must also be scrutinised and considered in detail.

2. Ornithological interest of the Application site

2.1. The UK is of outstanding international importance for its breeding seabirds and wintering marine birds. As with all Annex I and regularly migratory species, the UK has a particular responsibility under the Birds Directive to secure their conservation.

2.2. Seabirds are relatively long-lived, and as a result, their populations are sensitive to small increases in adult mortality. Their survival and productivity rates can be impacted by offshore windfarms directly (i.e. collision) and indirectly (e.g. displacement from foraging areas, additional energy expenditure, potential impacts on forage fish and wider ecosystem impacts such as changes in stratification).

2.3. The probability of seabirds being impacted by an application relates to whether they are likely to be in the area of the development, and their behaviour in the vicinity of the development. This will depend on a number of factors, including the application's proximity to seabird colonies, the species within those colonies, the species behaviours (including their foraging range, food preferences and flight behaviour), the attraction of the application array itself as a foraging area, and the attraction of areas beyond the application array for foraging (which would require birds to transition through the development array or detour around it).

Species of interest

2.4. The **key species of interest in relation to the application** are Black-legged Kittiwake (*Rissa tridactyla*), Northern Gannet (*Morus bassanus*), Common Guillemot (*Uria aalge*), Atlantic Puffin (*Fratercula artica*)

2.5. A summary of their population status within the Britain, Isle of Man and Channel Islands is provided in Table 1 below.

Species	% World Population	UK Colony Trends 1986 to 2021
Black-legged Kittiwake	5.3	Declining
Northern Gannet	59.1	Mostly increasing but a few declining colonies (<i>N.B. Gannets were badly impacted by HPAI in 2021-22</i>)
Guillemot	6.2	Some colonies increasing but many declining
Atlantic Puffin	3.3-3.9	Declining

Northern Gannet

2.6. Northern Gannet are endemic to the North Atlantic although the majority breed in Britain and Ireland. They tend to breed on offshore islands and stacks. Gannets are typically long-lived seabirds, living to an average age of 17 years and not breeding until the age of 5 years. During the breeding season, adults will take it in turn to incubate the single egg for approximately 42-46 days with the chick fledging unaccompanied by its parents after approximately 90 days. Some colonies, such as that on the Bass Rock in the Firth of Forth – the largest Gannetry in the world - are particularly large and conspicuous. Gannet can catch fish at depths of 20 metres but also feed from the surface on small shoaling fish such as sandeel.

2.7. During the breeding season Gannets are central-place foragers meaning they are constrained to return to the nest after foraging to maintain territories and raise their young. Foraging trip durations are dependent on colony size with birds from larger colonies making longer foraging trips (both in distance and duration).

2.8. Gannet were particularly badly impacted by Highly Pathogenic Avian Influenza (HPAI) during the 2022 breeding season with large numbers of deaths reported. On the Bass Rock a catastrophic breeding failure was reported which is likely to vastly impact their future population numbers and the robustness of those populations to additional mortality.

2.9. They are amber listed in the Birds of Conservation Concern.

2.10. Northern Gannet have been assessed as having a high vulnerability to collisions with rotating turbine blades (Furness *et al.*, 2013, Wade *et al.*, 2016), partly due to their flight altitude and manoeuvrability. Breeding Gannets tracked with GPS from Helgoland in the eastern North Sea travelled around and through operational wind farms.

2.11. There is a need to assess the possible impacts to Gannets throughout the year as behavioural constraints change; starting when they arrive back at the colony for the breeding season until they leave on migration, and then throughout the winter. During autumn and winter potential interaction with turbines will not be limited to birds from the closest breeding colony but birds from across the breeding range as they disperse and travel south.

2.12. There is consistent evidence of wind farm avoidance by non-breeding Gannets and Gannets on migration. But little is known about the behavioural responses of breeding Gannets to offshore turbines resulting from a lack of operational turbines within foraging range of breeding colonies.

Black-legged Kittiwake

2.13. Black-legged Kittiwake are members of the gull family. They tend to nest on vertical rocky-sea cliffs and during the breeding season feed on energy rich pelagic shoaling fish, such as sandeel, sprat and juvenile herring. Kittiwakes are surface feeders and are highly dependent on sandeels in the breeding season, as such they are particularly vulnerable to food shortage. During the breeding season Kittiwakes are central-place foragers meaning they are constrained to return to the nest after foraging to maintain territories and raise their young. When not in attendance at the nest or away on a foraging trip, Kittiwakes use the sea below the cliffs for maintenance behaviours such as loafing (spending time on the water to preen or rest, not related to feeding), preening and bathing. During the breeding season the highest densities of Kittiwakes at sea are within 1km of the colony.

2.14. Kittiwake are red listed in the Birds of Conservation Concern and on the OSPAR list of threatened and/or declining species and have been assessed by the IUCN as vulnerable to global extinction. They are particularly susceptible to collision risk but are also vulnerable to distributional changes as a result of the presence of turbines.

Common Guillemot

2.15. Common Guillemot are members of the auk family along with Puffin and Razorbill. They typically form highly dense colonies and lay a single egg (without a nest) on a cliff, narrow ledges, or other inaccessible areas. They tend to eat fish and crustaceans. Guillemots are typically long-lived seabirds, living to an average age of 23 years and not breeding until the age of 5 years. Breeding success is highest where birds are most tightly packed. Adults will incubate the egg for 28-37 days, fledging then taking place when the chick is ~3 weeks old. The chick will then complete its growth at sea accompanied by its male parent.

2.16. The response of Guillemots to offshore wind farms is mixed although there is a paucity of data for breeding birds. Non-breeding birds have been shown to avoid offshore wind farms, as have breeding birds in the southern North Sea, whereas in the Irish Sea, Guillemots have shown no changes in abundance post construction and at another site, increased in abundance. More recent work has suggested that there may be some habituation over time to the presence of wind farms.

2.17. While details are still emerging, the 2024 breeding season for Guillemot appears to be extremely poor, with large number of nest sites vacant, birds present but not laying eggs and high degree of breeding asynchronicity. The causes of this are likely to be multifactorial, and may include HPAI, high water temperatures and resultant poor body conditions. The long term, population scale consequences are unclear, but may be severe. As a result, an extremely high level of precaution should be applied in considering the impacts arising from any offshore development on this species.

2.18. They are amber listed in the Birds of Conservation Concern.

Puffin

2.19. Puffin are one of the most iconic seabird species around Scotland with their brightly coloured beaks during the breeding season. They tend to nest in burrows and so are susceptible to mammalian predators. There is some evidence their diet changes seasonally but during the breeding season, they typically feed on shoaling fish such as sandeel, sprat and herring which they catch by underwater pursuit.

2.20. They are vulnerable to displacement which can lead to a loss of feeding grounds and excess energy expenditure as they take less direct routes to reach alternative prey sources.

2.21. Puffin are red listed in the Birds of Conservation Concern and have been assessed by the IUCN as vulnerable to global extinction.

Proximity of seabird colonies

2.33. The application array location is close to several SPAs with qualifying features within foraging range of the application array area. This includes the East Caithness Cliffs SPA, North Caithness Cliffs SPA, Outer Firth of Forth and St Andrews Bay Complex SPA, the Forth Islands SPA, Fowlsheugh SPA and St Abb's Head to Fast Castle SPA.

2.34. As SPAs, these sites are subject to general duties to protect, conserve and restore the designated features of the site to meet their conservation objectives, to prevent deterioration of the site's habitats and to prevent significant disturbance to the sites. If an application might impact a qualifying feature, as set out in Chapter 1, assessment in accordance with the Habitats Regulations is required.

Forth Islands SPA

2.35. The Forth Islands SPA consists of a series of islands in the Firth of Forth. The islands of Inchmickery, Isle of May, Fidra, The Lamb, Craigleith and Bass Rock were classified in 1990 and an extension to the site, consisting of Long Craig, was classified in 2004.

2.36. It qualifies under Article 4(2) of the Birds Directive due to the regular presence of:

- Migratory species including:
 - **Northern Gannet**, representing 8.2% of world's biogeographical population and 13.6% of the Great Britain population); and
 - **Atlantic Puffin**, (representing 1.5% of the total F.a.grabae biogeographic population and 3.1% of the Great Britain population).
- In excess of 20,000 individual seabirds during the breeding season including, in addition to Northern Gannet and Atlantic Puffin:
 - **Razorbill** representing 1.4% of the Great Britain population;
 - **Common Guillemot** representing 2.2% of the Great Britain population; and
 - **Black-legged Kittiwake** representing 1.7% of the Great Britain population.

2.37. The conservation objectives for the Forth Islands SPA are:

"To avoid deterioration of the habitats of the qualifying species (listed below) or significant disturbance to the qualifying species, thus ensuring that the integrity of the site is maintained; and

To ensure for the qualifying species that the following are maintained in the long term:

- *Population of the species as a viable component of the site*
- *Distribution of the species within site*
- *Distribution and extent of habitats supporting the species*
- *Structure, function and supporting processes of habitats supporting the species*
- *No significant disturbance of the species"*

Fowlsheugh SPA

2.38. Fowlsheugh SPA is a stretch of sheer cliffs on the east coast of Aberdeenshire plus a two-kilometre extension into the marine environment. The cliffs were designated in 1992 and the marine extension in 2009.

2.39. It qualifies under Article 4(2) of the Birds Directive due to the regular presence of:

- Migratory species including:
 - **Common Guillemot** representing 5% of the Great Britain population; and
 - **Black-legged Kittiwake** representing 7.5% of the Great Britain population.
- In excess of 20,000 individual seabirds during the breeding season including:
 - **Razorbill** representing 3.9% of the Great Britain population.

2.40. The conservation objectives for the Fowlsheugh SPA are:

“To avoid deterioration of the habitats of the qualifying species (listed below) or significant disturbance to the qualifying species, thus ensuring that the integrity of the site is maintained; and

To ensure for the qualifying species that the following are maintained in the long term:

- *Population of the species as a viable component of the site*
- *Distribution of the species within site*
- *Distribution and extent of habitats supporting the species*
- *Structure, function and supporting processes of habitats supporting the species*
- *No significant disturbance of the species”*

St Abb's Head to Fast Castle SPA

2.41. St Abb's Head to Fast Castle SPA comprises an area of sea cliffs and 1km marine extension stretching over 10km along the Berwickshire Coast. The cliffs were designated in 1997 and the marine extension in 2009.

2.42. It qualifies under Article 4(2) of the Birds Directive due to the regular presence of:

- In excess of 20,000 individual seabirds during the breeding season including:
 - **Razorbill** representing 1% of the Great Britain population;
 - **Common Guillemot** representing 3% of the Great Britain population; and
 - **Black-legged Kittiwake** representing 4% of the Great Britain population.

2.43. The conservation objectives for the St Abb's Head to Fast Castle SPA are:

“To avoid deterioration of the habitats of the qualifying species (listed below) or significant disturbance to the qualifying species, thus ensuring that the integrity of the site is maintained; and

To ensure for the qualifying species that the following are maintained in the long term:

- *Population of the species as a viable component of the site*
- *Distribution of the species within site*
- *Distribution and extent of habitats supporting the species*
- *Structure, function and supporting processes of habitats supporting the species*
- *No significant disturbance of the species”*

East Caithness Cliffs

2.44. The East Caithness Cliffs SPA includes most of the sea-cliff areas between Wick and Helmsdale on the north-east coast of the Scottish mainland and includes an approximate 2km seaward extension. It was designated in 1996 and the marine extension in 2009.

2.45. It qualifies under Article 4(2) of the Birds Directive due to the regular presence of:

- In excess of 20,000 individual seabirds during the breeding season including:
 - **Razorbill** representing 2% of the Great Britain population;
 - **Common Guillemot** representing 3% of the Great Britain population; and
 - **Black-legged Kittiwake** representing 1% of the Great Britain population.

2.46. The conservation objectives for the East Caithness Cliffs SPA are:

“To avoid deterioration of the habitats of the qualifying species (listed below) or significant disturbance to the qualifying species, thus ensuring that the integrity of the site is maintained; and

To ensure for the qualifying species that the following are maintained in the long term:

- *Population of the species as a viable component of the site*
- *Distribution of the species within site*
- *Distribution and extent of habitats supporting the species*
- *Structure, function and supporting processes of habitats supporting the species*
- *No significant disturbance of the species”*

North Caithness Cliffs

2.47. The North Caithness Cliffs SPA includes sea-cliffs and islands at the north coast of the Scottish mainland. It includes a seaward extension that extends approximately 2km into the marine environment to include the seabed, water column and surface. It was designated in 1996 and the marine extension in 2009.

2.48. It qualifies under Article 4(2) of the Birds Directive due to the regular presence of:

- In excess of 20,000 individual seabirds during the breeding season including:
 - **Razorbill** representing 3% of the Great Britain population;
 - **Common Guillemot** representing 4% of the Great Britain population; and
 - **Black-legged Kittiwake** representing 3% of the Great Britain population.

2.49. The conservation objectives for the North Caithness Cliffs SPA are:

“To avoid deterioration of the habitats of the qualifying species (listed below) or significant disturbance to the qualifying species, thus ensuring that the integrity of the site is maintained; and

To ensure for the qualifying species that the following are maintained in the long term:

- *Population of the species as a viable component of the site*
- *Distribution of the species within site*
- *Distribution and extent of habitats supporting the species*
- *Structure, function and supporting processes of habitats supporting the species*
- *No significant disturbance of the species”*

Troup, Pennan and Lion's Heads

2.50. The Troup, Pennan and Lion's Heads SPA is a 9km stretch of sea cliffs along the Aberdeenshire coast in Scotland. It includes a seaward extension that extends approximately 2km into the marine environment to include the seabed, water column and surface. It was designated in 1997 and the marine extension in 2009.

2.51. It qualifies under Article 4(2) of the Birds Directive due to the regular presence of:

- In excess of 20,000 individual seabirds during the breeding season including:
 - **Black-legged Kittiwake** representing 6% of the Great Britain population;
 - **Common Guillemot** representing 4% of the Great Britain population.

2.52. The conservation objectives for the Troup, Pennan and Lion's Heads SPA are:

"To avoid deterioration of the habitats of the qualifying species (listed below) or significant disturbance to the qualifying species, thus ensuring that the integrity of the site is maintained; and

To ensure for the qualifying species that the following are maintained in the long term:

- *Population of the species as a viable component of the site*
- *Distribution of the species within site*
- *Distribution and extent of habitats supporting the species*
- *Structure, function and supporting processes of habitats supporting the species*
- *No significant disturbance of the species"*

Buchan Ness to Collieston Coast

2.53. The Buchan Ness to Collieston Coast SPA is a stretch of south-east facing cliff in Aberdeenshire, Scotland. It includes a seaward extension that extends approximately 2km into the marine environment to include the seabed, water column and surface. It was designated in 1998 and the marine extension in 2009.

2.54. It qualifies under Article 4(2) of the Birds Directive due to the regular presence of:

- In excess of 20,000 individual seabirds during the breeding season including:
 - **Common Guillemot** representing 1% of the Great Britain population; and
 - **Black-legged Kittiwake** representing 6% of the Great Britain population.

2.55. The conservation objectives for the Buchan Ness to Collieston Coast SPA are:

"To avoid deterioration of the habitats of the qualifying species (listed below) or significant disturbance to the qualifying species, thus ensuring that the integrity of the site is maintained; and

To ensure for the qualifying species that the following are maintained in the long term:

- *Population of the species as a viable component of the site*
- *Distribution of the species within site*
- *Distribution and extent of habitats supporting the species*
- *Structure, function and supporting processes of habitats supporting the species*
- *No significant disturbance of the species"*

Rousay

Outer Firth of Forth and St Andrews Bay Complex SPA

2.68. The Outer Firth of Forth and St Andrews Bay Complex SPA is a large estuarine and marine site consisting of the adjacent Firth of Forth and Tay. It attracts one of the largest and most diverse marine bird concentrations in Scotland. It complements adjacent SPAs including the Forth Islands SPA.

2.69. It was designated in 2020 and qualifies under Article 4(2) of the Birds Directive due to the regular presence of:

- Migratory species including:
 - **Northern Gannet** (*Morus bassanus*), representing 1.4% of biogeographical population and 2.7% of the Great Britain population.
- In excess of 20,000 individual seabirds during the breeding season including:
 - **Atlantic Puffin** (*Fratercula arctica*) representing 5.3% of the Great Britain population,
 - **Black-legged Kittiwake** (*Rissa tridactyla*) representing 1.6% of the Great Britain population and;
 - More than 2,000 individual **Common Guillemots** (*Uria aalge*).
- In excess of 20,000 individual seabirds during the non-breeding season including more than 2,000 individual **Common Guillemot**, **Black-legged Kittiwake**, and **Razorbill** (*Alca torda*).

2.70. The draft conservation objectives for the Outer Firth of Forth and St Andrews Bay Complex SPA are:

“To ensure that the qualifying features of the Outer Firth of Forth and St Andrews Bay Complex SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.

To ensure that the integrity of the Outer Firth of Forth and St Andrews Bay Complex SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:

- *The populations of qualifying features are viable components of the site.*
- *The distributions of the qualifying features throughout the site are maintained by avoiding significant disturbance of the species.*
- *The supporting habitats and processes relevant to the qualifying features and their prey/food resources are maintained, or where appropriate restored, at the Outer Firth of Forth and St Andrews Bay Complex SPA.”*

2.71. Black-legged Kittiwake and other species are considered to be in an unfavourable condition and therefore there is an overarching ‘restore’ objective for the site. Should plans or projects compromise the ability of the unfavourable qualifying features to recover (e.g. result in a further decline or accelerate the rate of decline, or prevent a recovery from occurring), then the Outer Firth of Forth and St Andrews Bay Complex SPA will not make an appropriate contribution to achieving Favourable Conservation Status (FCS) across the Atlantic Biogeographic Region.

RSPB Scotland Comments on RIAA

2.72. RSPB Scotland has reviewed the in-combination ornithological assessment presented in the MarramWind RIAA and considers that it significantly underestimates the risk of adverse effects on the integrity of affected SPAs. The Applicant's own assessment is unable to rule out AEoSI for the guillemot feature of three SPAs in-combination, and for one SPA when the Project is considered in isolation. However, when the full range of NatureScot approved guidance scenarios is applied to the 27 species-SPA combinations taken to PVA level, predicted in-combination population declines are identified across a substantially wider range of species and SPA features than the Applicant acknowledges. These include kittiwake and gannet populations at multiple SPAs under both guidance scenarios, and additional kittiwake, guillemot, razorbill and puffin populations under the upper guidance scenario. RSPB Scotland considers that predicted declines of this magnitude across so many SPA features represent a serious risk to their long-term integrity.

2.73. As such we cannot rule out AEoSI for kittiwake at Buchan Ness to Collieston Coast, East Caithness Cliffs, Forth Islands, Fowlsheugh, St Abb's Head to Fast Castle, Troup, Pennan and Lion's Heads, and West Westray SPAs, and for gannet at Forth Islands SPA, based on both NatureScot guidance scenarios. Under the upper guidance scenario alone, additional populations for which we cannot rule out AEoSI are guillemot at Buchan Ness to Collieston Coast, Troup, Pennan and Lion's Heads and Copinsay SPAs, razorbill at East Caithness Cliffs SPA, and puffin at North Caithness Cliffs SPA.

2.74. These predicted declines are of particular concern given the range of compounding pressures already facing these populations, including the ongoing impacts of Highly Pathogenic Avian Influenza, the effects of climate change on prey availability and breeding success, the reduced availability of key prey species such as sandeel, and the unfavourable conservation status of many of the affected SPA features. A population already under pressure from these stressors has substantially reduced resilience to absorb additional mortality. This is especially acute for the kittiwake feature of St Abb's Head to Fast Castle SPA, where predicted population size after 35 years ranges from 30.7% to 39.6% of what it would have been in the absence of development. This is a predicted loss of between 60 and 70% of the population. Similarly stark predictions are made for kittiwake at West Westray SPA (53.6% to 62.1%), Forth Islands SPA (76.7% to 82.2%), and East Caithness Cliffs SPA (57.9% to 67.3%), and for gannet at Forth Islands SPA (56.5% to 66.6%). For these populations in particular, the scale of predicted in-combination impact is such that RSPB Scotland considers the long-term integrity of the SPA features to be at serious risk, irrespective of the individual contribution of any single development.

2.75. Developers argue no AEoSI for many SPAs due to considering commitments to compensation.

2.76. Document presents developer preferred scenarios alongside NatureScot guidance.

2.77. Document also presents various compensation scenarios – too many to consider

Table 1. NatureScot guidance scenarios for high and low impact. Kittiwake and gannet values are for combined displacement and collision risk mortalities. Guillemot, razorbill and puffin values are for displacement response only.

Species	Scenario	NatureScot Guidance Parameters	Pathway
Kittiwake	High	30% displacement, 3% mortality	Combined
	Low	30% displacement, 1% mortality	Combined

Guillemot	High	60% displacement, 5% breeding / 3% non-breeding mortality	Displacement only
	Low	50% displacement, 1% breeding and non-breeding mortality	Displacement only
Razorbill	High	60% displacement, 5% breeding / 3% non-breeding mortality	Displacement only
	Low	50% displacement, 1% breeding and non-breeding mortality	Displacement only
Puffin	High	60% displacement, 5% breeding / 3% non-breeding mortality	Displacement only
	Low	50% displacement, 1% breeding and non-breeding mortality	Displacement only
Gannet	High	70% displacement, 3% mortality	Combined
	Low	70% displacement, 1% mortality	Combined

Table 2. Selected summary of Population Viability Analysis results for Special Protection Areas and species features identified during scoping. Median Counterfactual of Growth Rate and Median Counterfactual of Population Size estimated using NatureScot “High” Impact Scenario in combination with consented developments over the 35-year operational lifetime of the project.

SPA	Species	Median CGR	Median CPS	Table
Buchan Ness to Collieston Coast	Kittiwake	0.995	0.820	2.9
	Guillemot	0.984	0.564	2.63
Calf of Eday	Guillemot	0.996	0.878	2.83
Copinsay	Guillemot	0.993	0.783	2.73
East Caithness Cliffs	Kittiwake	0.985	0.579	2.30
	Razorbill	0.990	0.686	2.93
Fair Isle	Guillemot	0.998	0.920	2.78
	Razorbill	0.996	0.878	2.98
	Puffin	0.999	0.979	2.113
	Gannet	0.998	0.922	2.141
Forth Islands	Kittiwake	0.993	0.767	2.44
	Puffin	0.997	0.889	2.108
	Gannet	0.984	0.565	2.132
Fowlsheugh	Kittiwake	0.990	0.700	2.23
Hermaness, Saxa Vord & Valla Field	Gannet	0.996	0.869	2.177
North Caithness Cliffs	Kittiwake	0.995	0.820	2.37
	Puffin	0.990	0.708	2.103
North Rona & Sula Sgeir	Gannet	0.999	0.978	2.168
Noss	Gannet	0.997	0.896	2.159
St Abb’s Head to Fast Castle	Kittiwake	0.968	0.307	2.51
Sule Skerry & Sula Stack	Puffin	0.998	0.929	2.118
	Gannet	0.997	0.904	2.150
Troup, Pennan and Lion’s Head	Kittiwake	0.994	0.807	2.16
	Guillemot	0.992	0.743	2.68

	Razorbill	0.996	0.865	2.88
West Westray	Kittiwake	0.983	0.536	2.58
Foula	Puffin	0.999	0.976	2.123

For specifications of each scenario see Table 1

Table 3. Selected summary of Population Viability Analysis results for Special Protection Areas and species features identified during scoping. Median Counterfactual of Growth Rate and Median Counterfactual of Population Size estimated using NatureScot “Low” Impact Scenario in combination with consented developments over the 35-year operational lifetime of the project.

SPA	Species	Median CGR	Median CPS	Table
Buchan Ness to Collieston Coast	Kittiwake	0.996	0.854	2.9
	Guillemot	0.997	0.896	2.63
Calf of Eday	Guillemot	0.999	0.972	2.83
Copinsay	Guillemot	0.998	0.938	2.73
East Caithness Cliffs	Kittiwake	0.989	0.673	2.30
	Razorbill	0.998	0.915	2.93
Fair Isle	Guillemot	0.999	0.980	2.78
	Razorbill	0.999	0.969	2.98
	Puffin	1.000	0.995	2.113
	Gannet	0.998	0.945	2.141
Forth Islands	Kittiwake	0.995	0.822	2.44
	Puffin	0.999	0.977	2.108
	Gannet	0.989	0.666	2.132
Fowlsheugh	Kittiwake	0.992	0.759	2.23
Hermaness, Saxa Vord & Valla Field	Gannet	0.997	0.910	2.177
North Caithness Cliffs	Kittiwake	0.996	0.855	2.37
	Puffin	0.998	0.935	2.103
North Rona & Sula Sgeir	Gannet	1.000	0.985	2.168
Noss	Gannet	0.998	0.928	2.159
St Abb’s Head to Fast Castle	Kittiwake	0.975	0.396	2.51
Sule Skerry & Sula Stack	Puffin	1.000	0.994	2.118
	Gannet	0.998	0.927	2.150
Troup, Pennan and Lion’s Head	Kittiwake	0.995	0.850	2.16
	Guillemot	0.998	0.938	2.68
	Razorbill	0.999	0.960	2.88
West Westray	Kittiwake	0.987	0.621	2.58
Foula	Puffin	1.000	0.993	2.123

For specifications of each scenario see Table 1

Summary of significant impacts – project in isolation

2.78. The Applicant has been unable to rule out an Adverse Effect on Site Integrity (AEoSI) for the guillemot feature of Buchan Ness to Collieston Coast SPA in relation to distributional response

effects when the Project is considered in isolation. This conclusion applies under the upper NatureScot guidance scenario, which predicts a reduction in annual population growth rate of 0.48%. RSPB Scotland notes that the Applicant qualifies this finding as applying only to the upper guidance scenario. However, we consider the NatureScot guidance scenarios to be the appropriate basis for assessment, and do not accept that the developer's preferred lower mortality assumptions provide sufficient justification for dismissing this finding.

Summary of significant impacts - in combination with other offshore wind farms

2.79. The Applicant has been unable to rule out an Adverse Effect on Site Integrity (AEoSI) for the guillemot feature of three SPAs when the Project is considered in-combination with other consented North Sea wind farms. These are Buchan Ness to Collieston Coast SPA, Troup, Pennan and Lion's Heads SPA, and Copinsay SPA, all in relation to distributional response effects. This outcome is produced from both the NatureScot guidance scenarios and the Applicants preferred method.

2.80. RSPB Scotland has independently reviewed the PVA results for the 27 species-SPA combinations taken to PVA-level assessment by the Applicant. Below we summarise the results of the assessments using the NatureScot approved guidance scenarios only. This does not mean we agree that other species and sites will not have significant impacts; rather that we are unable to reach conclusions because the Applicant has not completed PVAs for those combinations. These in-combination impacts are presented including the impacts from other consented North Sea wind farms, including Berwick Bank Offshore Wind Farm. We only consider the NatureScot approved guidance scenarios.

Black-legged Kittiwake

2.81. **Buchan Ness to Collieston Coast SPA** Within the range of likely mortalities derived using the methods advocated by NatureScot, Marine Directorate and RSPB Scotland during scoping, the impacts arising from distributional change and collision mortality associated with MarramWind Offshore Wind Farm in combination with other North Sea wind farms including Berwick Bank are predicted to result in the annual population growth rate of kittiwake at the Buchan Ness to Collieston Coast SPA declining with a ratio of impacted to unimpacted population growth rate of between 0.995 and 0.996. This means that after the 35-year lifetime of MarramWind Offshore Wind Farm, the population size of the SPA feature is expected to be between **82.0% and 85.4%** of what it would have been in the absence of the development.

2.82. **Troup, Pennan and Lion's Heads SPA** Within the range of likely mortalities derived using the methods advocated by NatureScot, Marine Directorate and RSPB Scotland during scoping, the impacts arising from distributional change and collision mortality associated with MarramWind Offshore Wind Farm in combination with other North Sea wind farms including Berwick Bank are predicted to result in the annual population growth rate of kittiwake at the Troup, Pennan and Lion's Heads SPA declining with a ratio of impacted to unimpacted population growth rate of between 0.994 and 0.995. This means that after the 35-year lifetime of MarramWind Offshore Wind Farm, the population size of the SPA feature is expected to be between **80.7% and 85.0%** of what it would have been in the absence of the development.

2.83. **Fowlsheugh SPA** Within the range of likely mortalities derived using the methods advocated by NatureScot, Marine Directorate and RSPB Scotland during scoping, the impacts arising from distributional change and collision mortality associated with MarramWind Offshore Wind Farm in combination with other North Sea wind farms including Berwick Bank are predicted to result in the annual population growth rate of kittiwake at the Fowlsheugh SPA declining with a ratio of impacted to unimpacted population growth rate of between 0.990 and 0.992. This means that after the 35-year lifetime of MarramWind Offshore Wind Farm, the population size of the SPA feature is expected to be between **70.0% and 75.9%** of what it would have been in the absence of the development.

2.84. **East Caithness Cliffs SPA** Within the range of likely mortalities derived using the methods advocated by NatureScot, Marine Directorate and RSPB Scotland during scoping, the impacts arising from distributional change and collision mortality associated with MarramWind Offshore Wind Farm in combination with other North Sea wind farms including Berwick Bank are predicted to result in the annual population growth rate of kittiwake at the East Caithness Cliffs SPA declining with a ratio of impacted to unimpacted population growth rate of between 0.985 and 0.989. This means that after the 35-year lifetime of MarramWind Offshore Wind Farm, the population size of the SPA feature is expected to be between **57.9% and 67.3%** of what it would have been in the absence of the development.

2.85. **North Caithness Cliffs SPA** Within the range of likely mortalities derived using the methods advocated by NatureScot, Marine Directorate and RSPB Scotland during scoping, the impacts arising from distributional change and collision mortality associated with MarramWind Offshore Wind Farm in combination with other North Sea wind farms including Berwick Bank are predicted to result in the annual population growth rate of kittiwake at the North Caithness Cliffs SPA declining with a ratio of impacted to unimpacted population growth rate of between 0.995 and 0.996. This means that after the 35-year lifetime of MarramWind Offshore Wind Farm, the population size of the SPA feature is expected to be between **82.0% and 85.5%** of what it would have been in the absence of the development.

2.86. **Forth Islands SPA** Within the range of likely mortalities derived using the methods advocated by NatureScot, Marine Directorate and RSPB Scotland during scoping, the impacts arising from distributional change and collision mortality associated with MarramWind Offshore Wind Farm in combination with other North Sea wind farms including Berwick Bank are predicted to result in the annual population growth rate of kittiwake at the Forth Islands SPA declining with a ratio of impacted to unimpacted population growth rate of between 0.993 and 0.995. This means that after the 35-year lifetime of MarramWind Offshore Wind Farm, the population size of the SPA feature is expected to be between **76.7% and 82.2%** of what it would have been in the absence of the development.

2.87. **St Abb's Head to Fast Castle SPA** Within the range of likely mortalities derived using the methods advocated by NatureScot, Marine Directorate and RSPB Scotland during scoping, the impacts arising from distributional change and collision mortality associated with MarramWind Offshore Wind Farm in combination with other North Sea wind farms including Berwick Bank are predicted to result in the annual population growth rate of kittiwake at the St Abb's Head to Fast Castle SPA declining with a ratio of impacted to unimpacted population growth rate of between 0.968 and 0.975. This means that after the 35-year lifetime of MarramWind Offshore Wind Farm,

the population size of the SPA feature is expected to be between **30.7% and 39.6%** of what it would have been in the absence of the development.

2.88. West Westray SPA Within the range of likely mortalities derived using the methods advocated by NatureScot, Marine Directorate and RSPB Scotland during scoping, the impacts arising from distributional change and collision mortality associated with MarramWind Offshore Wind Farm in combination with other North Sea wind farms including Berwick Bank are predicted to result in the annual population growth rate of kittiwake at the West Westray SPA declining with a ratio of impacted to unimpacted population growth rate of between 0.983 and 0.987. This means that after the 35-year lifetime of MarramWind Offshore Wind Farm, the population size of the SPA feature is expected to be between **53.6% and 62.1%** of what it would have been in the absence of the development.

Common Guillemot

2.89. Buchan Ness to Collieston Coast SPA Within the range of likely mortalities derived using the methods advocated by NatureScot, Marine Directorate and RSPB Scotland during scoping, the impacts arising from distributional change associated with MarramWind Offshore Wind Farm in combination with other North Sea wind farms including Berwick Bank are predicted to result in the annual population growth rate of guillemot at the Buchan Ness to Collieston Coast SPA declining with a ratio of impacted to unimpacted population growth rate of between 0.984 and 0.997. This means that after the 35-year lifetime of MarramWind Offshore Wind Farm, the population size of the SPA feature is expected to be between **56.4% and 89.6%** of what it would have been in the absence of the development.

2.90. Troup, Pennan and Lion's Heads SPA Within the range of likely mortalities derived using the methods advocated by NatureScot, Marine Directorate and RSPB Scotland during scoping, the impacts arising from distributional change associated with MarramWind Offshore Wind Farm in combination with other North Sea wind farms including Berwick Bank are predicted to result in the annual population growth rate of guillemot at the Troup, Pennan and Lion's Heads SPA declining with a ratio of impacted to unimpacted population growth rate of between 0.992 and 0.998. This means that after the 35-year lifetime of MarramWind Offshore Wind Farm, the population size of the SPA feature is expected to be between **74.3% and 93.8%** of what it would have been in the absence of the development.

2.91. Copinsay SPA Within the range of likely mortalities derived using the methods advocated by NatureScot, Marine Directorate and RSPB Scotland during scoping, the impacts arising from distributional change associated with MarramWind Offshore Wind Farm in combination with other North Sea wind farms including Berwick Bank are predicted to result in the annual population growth rate of guillemot at the Copinsay SPA declining with a ratio of impacted to unimpacted population growth rate of between 0.993 and 0.998. This means that after the 35-year lifetime of MarramWind Offshore Wind Farm, the population size of the SPA feature is expected to be between **78.3% and 93.8%** of what it would have been in the absence of the development.

2.92. Fair Isle SPA Within the range of likely mortalities derived using the methods advocated by NatureScot, Marine Directorate and RSPB Scotland during scoping, the impacts arising from distributional change associated with MarramWind Offshore Wind Farm in combination with other North Sea wind farms including Berwick Bank are predicted to result in the annual population growth rate of guillemot at the Fair Isle SPA declining with a ratio of impacted to unimpacted

population growth rate of between 0.998 and 0.999. This means that after the 35-year lifetime of MarramWind Offshore Wind Farm, the population size of the SPA feature is expected to be between **92.0% and 98.0%** of what it would have been in the absence of the development.

2.93. **Calf of Eday SPA** Within the range of likely mortalities derived using the methods advocated by NatureScot, Marine Directorate and RSPB Scotland during scoping, the impacts arising from distributional change associated with MarramWind Offshore Wind Farm in combination with other North Sea wind farms including Berwick Bank are predicted to result in the annual population growth rate of guillemot at the Calf of Eday SPA declining with a ratio of impacted to unimpacted population growth rate of between 0.996 and 0.999. This means that after the 35-year lifetime of MarramWind Offshore Wind Farm, the population size of the Calf of Eday SPA guillemot feature is expected to be between **87.8% and 97.2%** of what it would have been in the absence of the development.

Razorbill

2.94. **Troup, Pennan and Lion's Heads SPA** Within the range of likely mortalities derived using the methods advocated by NatureScot, Marine Directorate and RSPB Scotland during scoping, the impacts arising from distributional change associated with MarramWind Offshore Wind Farm in combination with other North Sea wind farms including Berwick Bank are predicted to result in the annual population growth rate of razorbill at the Troup, Pennan and Lion's Heads SPA declining with a ratio of impacted to unimpacted population growth rate of between 0.996 and 0.999. This means that after the 35-year lifetime of MarramWind Offshore Wind Farm, the population size of the SPA feature is expected to be between **86.5% and 96.0%** of what it would have been in the absence of the development.

2.95. **East Caithness Cliffs SPA** Within the range of likely mortalities derived using the methods advocated by NatureScot, Marine Directorate and RSPB Scotland during scoping, the impacts arising from distributional change associated with MarramWind Offshore Wind Farm in combination with other North Sea wind farms including Berwick Bank are predicted to result in the annual population growth rate of razorbill at the East Caithness Cliffs SPA declining with a ratio of impacted to unimpacted population growth rate of between 0.990 and 0.998. This means that after the 35-year lifetime of MarramWind Offshore Wind Farm, the population size of the SPA feature is expected to be between **68.6% and 91.5%** of what it would have been in the absence of the development.

2.96. **Fair Isle SPA** Within the range of likely mortalities derived using the methods advocated by NatureScot, Marine Directorate and RSPB Scotland during scoping, the impacts arising from distributional change associated with MarramWind Offshore Wind Farm in combination with other North Sea wind farms including Berwick Bank are predicted to result in the annual population growth rate of razorbill at the Fair Isle SPA declining with a ratio of impacted to unimpacted population growth rate of between 0.996 and 0.999. This means that after the 35-year lifetime of MarramWind Offshore Wind Farm, the population size of the SPA feature is expected to be between **87.8% and 96.9%** of what it would have been in the absence of the development.

Atlantic Puffin

2.97. **North Caithness Cliffs SPA** Within the range of likely mortalities derived using the methods advocated by NatureScot, Marine Directorate and RSPB Scotland during scoping, the impacts

arising from distributional change associated with MarramWind Offshore Wind Farm in combination with other North Sea wind farms including Berwick Bank are predicted to result in the annual population growth rate of puffin at the North Caithness Cliffs SPA declining with a ratio of impacted to unimpacted population growth rate of between 0.990 and 0.998. This means that after the 35-year lifetime of MarramWind Offshore Wind Farm, the population size of the SPA feature is expected to be between **70.8% and 93.5%** of what it would have been in the absence of the development.

2.98. Forth Islands SPA Within the range of likely mortalities derived using the methods advocated by NatureScot, Marine Directorate and RSPB Scotland during scoping, the impacts arising from distributional change associated with MarramWind Offshore Wind Farm in combination with other North Sea wind farms including Berwick Bank are predicted to result in the annual population growth rate of puffin at the Forth Islands SPA declining with a ratio of impacted to unimpacted population growth rate of between 0.997 and 0.999. This means that after the 35-year lifetime of MarramWind Offshore Wind Farm, the population size of the SPA feature is expected to be between **88.9% and 97.7%** of what it would have been in the absence of the development.

2.99. Fair Isle SPA Within the range of likely mortalities derived using the methods advocated by NatureScot, Marine Directorate and RSPB Scotland during scoping, the impacts arising from distributional change associated with MarramWind Offshore Wind Farm in combination with other North Sea wind farms including Berwick Bank are predicted to result in the annual population growth rate of puffin at the Fair Isle SPA declining with a ratio of impacted to unimpacted population growth rate of between 0.999 and 1.000. This means that after the 35-year lifetime of MarramWind Offshore Wind Farm, the population size of the SPA feature is expected to be between **97.9% and 99.5%** of what it would have been in the absence of the development.

2.100 Sule Skerry and Sule Stack SPA Within the range of likely mortalities derived using the methods advocated by NatureScot, Marine Directorate and RSPB Scotland during scoping, the impacts arising from distributional change associated with MarramWind Offshore Wind Farm in combination with other North Sea wind farms including Berwick Bank are predicted to result in the annual population growth rate of puffin at the Sule Skerry and Sule Stack SPA declining with a ratio of impacted to unimpacted population growth rate of between 0.998 and 1.000. This means that after the 35-year lifetime of MarramWind Offshore Wind Farm, the population size of the SPA feature is expected to be between **92.9% and 99.4%** of what it would have been in the absence of the development.

2.101 Foula SPA Within the range of likely mortalities derived using the methods advocated by NatureScot, Marine Directorate and RSPB Scotland during scoping, the impacts arising from distributional change associated with MarramWind Offshore Wind Farm in combination with other North Sea wind farms including Berwick Bank are predicted to result in the annual population growth rate of puffin at the Foula SPA declining with a ratio of impacted to unimpacted population growth rate of between 0.999 and 1.000. This means that after the 35-year lifetime of MarramWind Offshore Wind Farm, the population size of the SPA feature is expected to be between **97.6% and 99.3%** of what it would have been in the absence of the development.

Northern Gannet

2.102 Forth Islands SPA Within the range of likely mortalities derived using the methods advocated by NatureScot, Marine Directorate and RSPB Scotland during scoping, the impacts arising from distributional change and collision mortality associated with MarramWind Offshore Wind Farm in combination with other North Sea wind farms including Berwick Bank are predicted to result in the annual population growth rate of gannet at the Forth Islands SPA declining with a ratio of impacted to unimpacted population growth rate of between 0.984 and 0.989. This means that after the 35-year lifetime of MarramWind Offshore Wind Farm, the population size of the SPA feature is expected to be between **56.5% and 66.6%** of what it would have been in the absence of the development.

2.103 Fair Isle SPA Within the range of likely mortalities derived using the methods advocated by NatureScot, Marine Directorate and RSPB Scotland during scoping, the impacts arising from distributional change and collision mortality associated with MarramWind Offshore Wind Farm in combination with other North Sea wind farms including Berwick Bank are predicted to result in the annual population growth rate of gannet at the Fair Isle SPA declining with a ratio of impacted to unimpacted population growth rate of between 0.998 and 0.998. This means that after the 35-year lifetime of MarramWind Offshore Wind Farm, the population size of the SPA feature is expected to be between **92.2% and 94.5%** of what it would have been in the absence of the development.

2.104 Sule Skerry and Sule Stack SPA Within the range of likely mortalities derived using the methods advocated by NatureScot, Marine Directorate and RSPB Scotland during scoping, the impacts arising from distributional change and collision mortality associated with MarramWind Offshore Wind Farm in combination with other North Sea wind farms including Berwick Bank are predicted to result in the annual population growth rate of gannet at the Sule Skerry and Sule Stack SPA declining with a ratio of impacted to unimpacted population growth rate of between 0.997 and 0.998. This means that after the 35-year lifetime of MarramWind Offshore Wind Farm, the population size of the SPA feature is expected to be between **90.4% and 92.7%** of what it would have been in the absence of the development.

2.105 Noss SPA Within the range of likely mortalities derived using the methods advocated by NatureScot, Marine Directorate and RSPB Scotland during scoping, the impacts arising from distributional change and collision mortality associated with MarramWind Offshore Wind Farm in combination with other North Sea wind farms including Berwick Bank are predicted to result in the annual population growth rate of gannet at the Noss SPA declining with a ratio of impacted to unimpacted population growth rate of between 0.997 and 0.998. This means that after the 35-year lifetime of MarramWind Offshore Wind Farm, the population size of the SPA feature is expected to be between **89.6% and 92.8%** of what it would have been in the absence of the development.

2.107 North Rona and Sula Sgeir SPA Within the range of likely mortalities derived using the methods advocated by NatureScot, Marine Directorate and RSPB Scotland during scoping, the impacts arising from distributional change and collision mortality associated with MarramWind Offshore Wind Farm in combination with other North Sea wind farms including Berwick Bank are predicted to result in the annual population growth rate of gannet at the North Rona and Sula Sgeir SPA declining with a ratio of impacted to unimpacted population growth rate of between 0.999 and 1.000. This means that after the 35-year lifetime of MarramWind Offshore Wind Farm, the population size of the SPA feature is expected to be between **97.8% and 98.5%** of what it would have been in the absence of the development.

2.108 **Hermaness, Saxa Vord and Valla Field SPA** Within the range of likely mortalities derived using the methods advocated by NatureScot, Marine Directorate and RSPB Scotland during scoping, the impacts arising from distributional change and collision mortality associated with MarramWind Offshore Wind Farm in combination with other North Sea wind farms including Berwick Bank are predicted to result in the annual population growth rate of gannet at the Hermaness, Saxa Vord and Valla Field SPA declining with a ratio of impacted to unimpacted population growth rate of between 0.996 and 0.997. This means that after the 35-year lifetime of MarramWind Offshore Wind Farm, the population size of the SPA feature is expected to be between **86.9% and 91.0%** of what it would have been in the absence of the development.

3. RSPB Scotland's assessment of the derogation case

3.1 The development is large and has the potential for significant impact and, both individually and in combination with other developments, it is predicted to result in AEoSI. This means the magnitude and severity of impacts from the development is of such significance it could prevent the achievement of the conservation objectives and the preservation of the SPA for the conservation of its species is also in question. These international sites are the most important sites for wildlife and are legally required to be conserved and, if necessary, restored to favourable conservation status. There is also an obligation to assess any applications which may harm them and ensure protection requirements are fully complied with in any application processes. As mentioned above part of those legal requirements are the Habitats Regulations, which only allows projects to be permitted if:

1. There are no feasible alternative solutions to the project which are less harmful;
2. There are imperative reasons of overriding public interest (IROPI) for the project to proceed; and
3. Any necessary compensatory measures are secured to ensure that the overall coherence of the UK/National Site Network is protected and to ensure the objectives for that Network are achieved

3.2. These requirements need to be considered individually but also together; the IROPI needs to be identified to be able to consider possible alternative solutions. If those tests can be passed i.e. there are no less harmful alternative solutions and there is IROPI, compensation will need to be identified and information provided to demonstrate that it is certain, ecologically, legally and financially, that compensation measures can be secured. All three must be satisfied before a project with potential adverse effects on site integrity may be consented.

3.3. As set out in the European Commission's updated guidance on Article 6(4) of the Habitats Directive ("the EC guidance"), compensation measures considered under the context of the habitat's regulations are independent of the project and are aimed to offset the residual negative effects of that project in order to maintain the overall coherence of the UK/National site network. They must provide continuity in the ecological processes essential to maintain the structure and functions that contribute to the European site network coherence.

3.4. Compensatory measures should be additional to actions considered as normal requirements under the Habitats Regulations and should go beyond those standard measures required for the designation, protection, and management of the protected sites. It is vital that

details and evidence are provided to enable ecological, financial, and legal confidence in the compensation proposals. Information to do this must be available for review by all interested parties. As it stands, the generic nature of the proposed compensatory measures means that it is not possible to assess them (for further detail see Appendix 2). As a result, considerable uncertainty surrounds the ability of the various proposed compensation measures to deliver the claimed ecological benefits.

3.6. As such, the Minister cannot conclude that the coherence of the UK/National Site Network for the affected species will be protected. As the application can only be permitted through the derogation process, securing compensation goes to the heart of the acceptability. Leaving this detail to pre-commencement condition risks undermining the derogation process and could result in an unimplementable development consent.

Appendix 2

RSPB Scotland commentary on the Applicant's proposed compensation measures

1. RSPB Scotland approach to evaluating compensation measures

Introduction

- 1.1. We note that the Applicant has shortlisted three options for compensation. There are
- 1.2. Contribution to the strategic compensation fund
- 1.3. Predator eradication and biosecurity
- 1.4. Conservation management funding
- 1.5. In short - it is vital that details and evidence are provided to enable confidence ecologically, financially and legally, in the compensation proposals and such information must be available for review by all Interested parties. This section sets out RSPB Scotland's approach to evaluating compensation measures. It includes our general approach to assessing compensation proposals and the level of detail we consider is required in order to evaluate compensation proposals as part of the Application's determination, before drawing out some general issues raised by the Applicant's proposals. We have set it out under the following headings:
 - RSPB Scotland's approach to assessing compensation proposals;
 - Generic issues raised by the Applicant's compensation proposals:
 - Lack of specific proposals and locations for compensation measures
 - Scale of compensation
 - Lead-in times for compensation
 - Lifetime of compensation in relation to damage
 - Environmental assessment of the proposed compensation measures.

RSPB Scotland's approach to assessing compensation proposals

- 1.6. Set out below are the key criteria and requirements from the EC guidance¹ on compensatory measures, along with additional commentary based on RSPB Scotland's experience of the principles that should be applied when assessing compensatory measures.

¹ EC (2018) Managing Natura 2000 sites – The provisions of Article 6 of the 'Habitats' Directive 92/43/EEC (21/11/18) C(2018) 7621 final

EC criteria	EC guidance summary (emphasis added)	RSPB Scotland additional commentary
Targeted	<p>Measures should be the most appropriate to the impact predicted and focused on objectives and targets addressing the Natura 2000 elements affected.</p> <p>Must refer to structural and functional aspects of site integrity and habitats/species affected.</p> <p>Must consist of ecological measures: payments to individuals/funds are not appropriate.</p>	<p>Clear objectives and success criteria must be established for the compensation measures.</p> <p>Must address the ecological functions and processes required by impacted species/habitat. Requires shared understanding and agreement on what the impacts are i.e. need to agree nature, magnitude including that they will continue for as long as the project's impacts. This includes the time likely to be required for the SPAs to recover from those impacts in the case of proposals that are in place for a specified time period.</p> <p>This is in order to define objectives for compensation measures and to set out the success criteria to determine whether those objectives have been/are being achieved.</p>
Effective	<p>Based on best scientific knowledge available alongside specific investigations for the location where the measures will be implemented. Must be feasible and operational in reinstating the conditions needed to ensure the overall coherence of the Natura 2000 network.</p> <p>Measures where no reasonable guarantee of success should not be considered. The likely success of the compensation scheme should influence final approval of the plan or project in line with the prevention principle.</p> <p>The most effective option, with the greatest chance of success, must be chosen.</p> <p>Detailed monitoring required to ensure long-term effectiveness with remediation provisions if shown to be less effective.</p>	<p>Scientific evaluation of proposed measures must be carried out before consent is granted to avoid agreeing to measures that is/are not effective or technically feasible. This should include appropriate baseline survey and assessment.</p> <p>Compensation must address the impacted SPAs features to ensure overall coherence of the network for that feature is maintained. Substitution is not acceptable.</p> <p>Must be clearly defined timescales for delivery and measuring success (See success criteria under Targeted above).</p> <p>Monitoring must directly relate to the target species and the relevant ecological functions and processes.</p> <p>The compensation measures should be provided in perpetuity in line with obligations to ensure the overall coherence of the UK Site Network is maintained.</p> <p>Where it is not possible to devise compensatory measures to offset the adverse effects on site integrity, the project should not proceed.</p>
Technical feasibility	Design must follow scientific criteria and evaluation in line with best scientific knowledge and take into account the specific requirements of the ecological features to be reinstated.	See Effective above.
Extent	Extent required directly related to:	Based on an assessment of the necessary ecological requirements to restore species' populations and the related habitat structure and functions identified in the compensation objectives. Determining the minimum

EC criteria	EC guidance summary (emphasis added)	RSPB Scotland additional commentary
	<ul style="list-style-type: none"> - the quantitative and qualitative aspects inherent to the elements of integrity likely to be impaired - estimated effectiveness of the measure(s) <p>Therefore, ratios best set on a case-by-case basis. Ratios should generally be well above 1:1. Ratios of 1:1 or below only considered when shown measures will be fully effective in reinstating structure and functionality in a short period of time.</p>	<p>appropriate quantity will require an understanding of the quality of the compensation measures and how effective they will be in reinstating the required structures and functions. Any identified uncertainty in success should be factored in to increased ratios.</p> <p>Ratios need to be used where they make ecological sense and will help secure a successful outcome by providing more of something. Simply multiplying capacity to address uncertainty risks giving a false level of confidence.</p> <p>If there is no reasonable guarantee of success that measure should not be considered (see Effective under EC criteria).</p>
Location	<p>Located in areas where they will be most effective in maintaining overall coherence of the Natura 2000 network.</p> <p>Pre-conditions to be met include:</p> <ul style="list-style-type: none"> - must be within same range/ migration route/wintering areas for bird species and provide functions comparable those justifying selection of original site esp. geographical distribution; - must have/be able to develop the ecological structure and functions required by the relevant species (or habitat) - must not jeopardise integrity of any other Natura 2000 site. <p>Spatial search hierarchy starting as close as possible to the impacted Natura 2000 site and working out from there.</p>	<p>While the preference is for compensation measures as geographically close to the location of the damage, it is important to consider whether or not the compensation measures will be subject to pressures impacting their efficacy in that location e.g. prey availability, disturbance, and/or other impacts from the same or similar developments such as collision risk or displacement due to offshore wind farms.</p> <p>Therefore, compensation measures should be located so as to maximise proximity while minimising external pressures that may reduce likelihood of success.</p> <p>Compensation measures proposed to benefit SPA features must not result in damage to the integrity of any other SPA, SAC or Ramsar site and their features.</p>
Timing	<p>Case by case approach but must provide continuity in the ecological processes essential to maintain the structure and functions that contribute to the Natura 2000 network coherence.</p> <p>Requires tight co-ordination between implementation of the plan or project and the compensation measures.</p> <p>Factors to consider include:</p> <ul style="list-style-type: none"> - no irreversible damage to the site before compensation in place 	<p>Compensation measures should be fully functional before any damage occurs to ensure the overall coherence of the UK Site Network is protected. This requires careful alignment of the timelines for implementing the plan or project and the compensation measures.</p> <p>Suggested time lags in delivering fully functional compensation will need to be carefully considered and can only be accepted where this will not compromise the continuity of essential ecological processes,</p> <p>Any effect of delay should be factored into the design and additional compensation measures provided (see also Extent above).</p>

EC criteria	EC guidance summary (emphasis added)	RSPB Scotland additional commentary
	<ul style="list-style-type: none"> - compensation operational at the time damage occurs. If not possible, over-compensation required - time lags only admissible if will not compromise objective of “no net loss” to coherence of Natura 2000 network; - May be possible to scale down in time depending on whether the negative effects are expected to arise in short, medium or long term. <p>All technical, legal or financial provisions must be completed before plan or project implementation starts to prevent unforeseen delays that compromise effective compensation measures.</p>	
Long-term implementation	Legal and financial security required for long-term implementation and for protection, monitoring and maintenance of sites to be secured before impacts occur.	<p>Legal rights to secure and implement the compensation measures must be in place prior to consent being granted.</p> <p>And robust financial guarantees are required to fund implementation, monitoring and any necessary remediation measures.</p>

Table 1: Criteria for designing compensatory measures

Predator Rat/Mink Control

- 1.7. While we are supportive in principle of mink/rat control measures as the second short listed measure, RSPB Scotland requires further details to determine whether it is acceptable to be used as a compensation measure for seabirds. Results from a number of studies have shown varying effects of mink control on seabirds. In the Scottish West Coast, terns have shown higher breeding success at controlled sites, compared to uncontrolled sites (Ratcliffe et al., 2006²; Ratcliffe et al., 2008³). In the Archipelago National Park, Finland, Mink have been controlled since the 1990s. The effect it has had on biodiversity has been substantial, with many seabirds, land birds, and water birds having benefited from it (Nordstrom et al., 2003; Banks et al., 2008). Of the seabirds at this site, Great Black-backed Gulls have not shown signs of change since the control, Razorbills have recolonised the sites, and Arctic Skuas, Arctic Terns and Common Gulls have increased their breeding success.
- 1.8. We note that Table 5.1 of the compensation plan lists hedgehog as the main predator at Canna/Sanday and Foula, and feral cats as an unconfirmed predator at Muck and Foula. These require non-lethal eradication methods, which have a different evidence base, practical

² Ratcliffe, N., Houghton, D., Mayo, A., Smith, T., Scott, M., 2006. The breeding biology of terns on the western isles in relation to mink eradication. *Atlantic Seabirds* 8, 127-135

³ Ratcliffe, N., Craik, C., Helyar, A., Roy, S., Scott, M., 2008. Modelling the benefits of American Mink *Mustela vison* management options for terns in west Scotland. *Ibis* 150, 114-121

complexity and timescale to rodenticide or trapping programmes, so they warrant separate consideration.

- 1.9. We note from the proposals that predator management and biosecurity are grouped together. At the completion of a predator eradication scheme, we would expect to see biosecurity being secured as part of that compensation measure and this would need to be maintained for the lifetime of the development as part of that package to ensure that the eradication measure endured. We would not want to see a situation where the predator eradication actions are seen as compensating for a predicted number of mortalities and then ongoing biosecurity treated as a separate additional measure creating an additional compensation opportunity- in effect double counting the compensation.
- 1.10. For any predator eradication or control measure to work, the RSPB considers that there needs to be evidence of:
 - Mink predation of the species required to benefit from the measure (Kittiwake, Razorbill and, preferably, Guillemot); and that:
 - The predation is having a detrimental effect on the target colony e.g. evidence of reduced breeding productivity; and
 - Evidence that the proposed measure can be successfully implemented and maintained in practical terms; and
 - That the species targeted to benefit will respond positively to the measure implemented.
- 1.11. While mink predation on seabirds can be extensive, it can also take the form of isolated incidents that can be unpredictable, both in terms of magnitude and of timing of occurrence. This adds considerable uncertainty to outcome predictions of implementation of the measure and as such there would need to be a rigorous monitoring programme in place as an important component of the measure. Any compensation must also take account of other mammalian predators that may be present in addition to the target species. Further to this, for this measure to be acceptable as compensation there would also need to be a detailed adaptive management plan in place detailing how this measure would be implemented, monitored and the triggers for adapting the measures when necessary. While predator control is welcomed more detail is required and we will look forward to seeing any further detail provided.
- 1.12. The compensation put forward refers to a range of measures (below) that could be called on through strategic compensation and the Marine Recovery Fund. Some of these measures would have the potential to be effective, but much more detail would be required of any options chosen to ensure that they would provide proportionate levels of compensation in an effective manner that could be subject to adaptive management if the measures chosen fail to deliver compensation. We would raise concern about any generic proposals around habitat management and marine litter removal. The focus should remain on the affected species and colonies and only as a last resort should wider measures such as litter removal be considered.
 - Predator control and biosecurity
 - Habitat management and restoration and reduction of disturbance at colonies
 - Fisheries management measures and supporting prey habitat
 - Marine litter removal at scale

Conservation Management Funding

- 1.13. Conservation management funding referred to as the third measure shortlisted by the applicant, and it is noted that this can potentially apply to all species of interest. This section of the plan further notes that site selection is critical.
- 1.14. The plan provides limited examples where this is proposed (though not yet finalised) in relation to the Scottish Seabird Centre and Ossian proposals on mink control. However, no specific, site or conservation project proposals are referred to. At this stage RSPB Scotland considers that because there are no site-specific proposals for the loss of birds it is not possible to comment in detail other than emphasise our view that there needs to be more details and discussion around the measures proposed before any consent could be issued with significant level of confidence that the measures are available, if available are reasonably likely to happen and are effective. Without specific sites or projects this also means that adaptive measures cannot be outlined at this stage should what is proposed fail.
- 1.15. In relation to ecosystem restoration measures we note that the applicant is keen to discuss seagrass restoration as a wider measure. Should this be considered we would point out that should this be considered as either a project or strategic level measure for compensation protecting the measure- restored seagrass from the damage that has caused its decline in the first place would be critical. In addition, seagrass habitats or potential areas for them may not be close geographically to where the impacts occur. The main opportunity areas for this are currently on the west coast of Scotland but the colonies impacted by the proposal are to the north and east. In Fisheries management measures for inshore MPA's could help where there is overlap. However, not all sites for restoration would be within MPA's.
- 1.16. Other harder to identify factors such as upstream pollution in rivers and estuaries would have an influence upon the effectiveness of this measure. In addition, we are not aware of any evidence to show that seagrass restoration would increase the right prey species for the birds impacted with many seabirds foraging offshore. Seagrass is also subject to significant variations over time from storms, algal blooms and unusually high summer temperatures. All these factors can potentially negatively affect or even wipe out seagrass beds. Consequently, it is difficult to see how this can be reasonably justified as compensation for seabirds.

2. Conclusions

- 2.1. While the preferred approach of utilising the Strategic Compensation Framework is welcomed the submission of, and consultation on additional information is required to ensure that full consideration of legally, ecologically and financially appropriate (and possible) compensation measures relating to the SPAs and their species that are predicted to be affected by the Application and only if these are not feasible should alternative solutions be considered. The current level of detail while referring to specific islands with potential for predator eradication is generic with the presence (or extent) of predators unconfirmed on some sites. At this point in time the nature of the generic nature of the compensation proposals means that it is not possible to make an informed response on their adequacy. Consequently, RSPB Scotland objects to the compensation proposals as they currently stand.

- 2.2. RSPB Scotland would welcome further detail on the measures proposed so that an assessment can be made of their efficacy and quantity as well as the geographic relation with the impacts that are predicted to occur. We would also recommend that the developer utilises strategic compensation through the Marine Recovery Fund, once available, particularly given the early stage that the measure appear to be at.

Royal Yachting Association
("RYA")



26 January 2026

Jennifer Goodheir
Casework Officer
Marine Directorate – Licensing Operations Team
Scottish Government,
5 Atlantic Quay,
150 Broomielaw,
Glasgow,
G2 8LU
MD.MarineRenewables@gov.scot

Dear Jennifer,

00011544, 00011545, 00011546 & 00011547 – MarramWind Ltd – MarramWind Offshore Wind Farm

I have looked at the above applications on behalf of RYA Scotland and can confirm that we have no objections to the consents being given.

I note that the locations for construction, integration and wet storage have still to be determined. As the latter, in particular, has the potential to affect other marine activities it is important that the developers continue to work with other sectors to minimise problems.

Yours sincerely,

[Redacted]

Dr G. Russell FCIEEM(retd) FRMetS

Planning and Environment Officer, RYA Scotland

Salamander Wind Project Company Ltd

5 March 2026

Salamander Wind Project Company Ltd
c/o Odfjell Oceanwind PD UK Ltd
Prime View
Prime Four Business Park
Kingswells
Aberdeen
Aberdeenshire
United Kingdom
AB15 8PU

Marine Directorate Licensing Operations Team (MD-LOT)

By email: MD.MarineRenewables@gov.scot

Our ref: 100010-G-ME-0003

Dear Sir / Madam,

RESPONSE TO THE APPLICATION FOR CONSENT UNDER SECTION 36 OF THE ELECTRICITY ACT 1989 AND A MARINE LICENCE UNDER PART 4 OF THE MARINE (SCOTLAND) ACT 2010 AND PART 4 OF THE MARINE AND COASTAL ACCESS ACT 2009 TO CONSTRUCT AND OPERATE THE MARRAMWIND OFFSHORE WIND FARM, 75 AND 110 KILOMETRES OFF THE NORTH-EAST COAST OF SCOTLAND

Thank you for consulting Salamander Wind Project Company Limited (SWPC) on the application submitted to the Scottish Ministers on 5 January 2026, in accordance with the above legislation, to construct and operate the MarramWind Offshore Wind Farm and transmission infrastructure at a site off the north-east coast of Scotland by MarramWind Limited ("the Applicant").

The Salamander Offshore Wind Farm is a proposed floating wind farm comprising up to seven offshore wind turbine generators with a capacity of up to 100 megawatts; the Offshore Array Area is located approximately 35 km off the coast of Peterhead. The Offshore Export Cable is planned to make landfall east of Lunderton, approximately 2.5 km north of Peterhead, with the onshore infrastructure including the onshore substation and onshore export cable corridor located on nearby land at Lunderton, between the A90 and the coast.

Salamander Offshore Wind Farm is being developed by SWPC, a joint venture (JV) partnership between Odfjell Oceanwind, Simply Blue Energy and Subsea7. SWPC was granted Section 36 Consent and Marine Licence by the Scottish Ministers for the Salamander Offshore Wind Farm in July 2025. SWPC has also been granted planning permission in principle under the Town and Country Planning (Scotland) Act 1997 by Aberdeenshire Council.

General comments

In the MarramWind EIA Report, it is stated that Ørsted is a JV partner of SWPC. Please note that in August 2025 there was a change in the partners of SWPC; Ørsted exited the project, selling their stake to Odfjell Oceanwind.

Additionally, in February 2026 the SWPC JV partner Simply Blue Group changed name to Simply Blue Energy.

In the MarramWind Report to Inform Appropriate Assessment (Table 7.2), the Salamander Project is incorrectly categorised as Tier 1d (application submitted but not determined). The categorisation that should be applied to the Salamander Project is Tier 1c (Permitted but not yet implemented). This appears to be an isolated mistake rather than an error impacting weighting within the in-combination assessment or within the cumulative effects assessments of the EIA Report.

Cumulative Effects

MarramWind Offshore Wind Farm is located approximately 50 km from the Salamander Offshore Array Area and the export cable corridors (ECCs) of both projects overlap each other.

Since the Salamander Offshore Wind Farm was consented in July 2025 uncertainty associated with the grid reform process and grid connection dates introduces a potential challenge for the Salamander Project, and other projects, to manage overlapping construction activities. Assuming MarramWind gains all the appropriate consents and the project maintains the schedule shown in Plate 4.16 of the Project Description with construction of Phase 1 commencing in 2030 (as stated in 18.4.3.2), it is likely that the construction periods of the two projects will overlap. This is especially relevant if MarramWind selects Lunderton for Phase 1 landfall as MarramWind's landfall operations and seabed preparations along the rest of the export cable will coincide with Salamander's landfall and export cable installation operations.

Analysing the schedule it appears unlikely there would be overlapping piling operations in the offshore array areas, so cumulative underwater noise impacts are not expected.

Assuming installation of the Salamander Project is completed before MarramWind's export cables are installed there will be a requirement for at least one set of crossings of Salamander's export cables. As per MarramWind's mitigation measures M-186 and M-187, crossing and proximity agreements will be in place prior to construction commencing to ensure effective protection to the cables and safe navigation for marine users. SWPC agrees with the assumption that these agreements will be developed in good time, however note that there is considerable spatial overlap of the offshore ECCs for the two projects, as well as two other offshore wind developments (Green Volt and Muir Mhor), especially in the nearshore and landfall area at Lunderton which is constrained.

SWPC notes that of the three shortlisted landfall sites, the Lunderton North landfall is MarramWind's preferred site. In addition to the EEC spatial constraint noted above, this site directly overlaps with the southern section of Salamander's Landfall Compound Area of Search and less than 500 m from Salamander's Onshore Substation compound. Consequently, it is envisaged that both projects will need to collaborate to ensure safe working practices are adhered to and cumulative impacts to the local community are minimised, especially if there is temporal overlap of landfall operations.

There has already been a range of communication between MarramWind and SWPC, both directly and through the Peterhead Developers Forum, as well as in other multilateral developer workshops, focused on optimising the cable routing, the multiple proposed landfalls at Lunderton and the wider area. As a multi-phased project with three shortlisted landfall options, MarramWind has the ability to select landfall(s) that ease the congestion in the area of Lunderton North, given the existing consented projects at this location. Consequently, SWPC expects that this will be a particular focus for continued bilateral and multilateral engagement in the upcoming months/years as detailed designs of all projects progress, in order to ensure the successful safe installation and operation of the multiple export cables, whilst minimising impacts to the local community, inshore fisheries and marine and terrestrial environments as far as practicable.



Powered by Odfjell Oceanwind
and Simply Blue Energy

Salamander Wind Project Company Ltd.

E: info@salamanderwind.com

W: <https://salamanderfloatingwind.com/>

SWPC is pleased to have had the opportunity to input at this stage and look forward to working with the MarramWind team in relation to potential interactions between our two projects. The Salamander team can be reached through existing contacts or at info@salamanderwind.com.

Yours sincerely

[Redacted]

Marten Meynell

Consents Manager

Salamander Offshore Wind Farm

Registered Address: Salamander Wind Project Company Ltd.

c/o Odfjell Oceanwind PD UK Ltd, Prime View, Prime Four Business Park, Kingswells, Aberdeen, Aberdeenshire, United Kingdom, AB15 8PU

Company Number: SC662940

Scottish Environment Protection Agency (“SEPA”)

From: [Planning.North](#)
To: [MD Marine Renewables](#)
Cc: [Redacted]
Subject: PCS-20007794 SEPA Response to 00011544, 00011545, 00011546 & 00011547
Date: 20 January 2026 10:04:21
Attachments: [image.png](#)

To Whom It May Concern,

Marine (Scotland) Act 2010

00011544, 00011545, 00011546 & 00011547

MarramWind Ltd – MarramWind Offshore Wind Farm

75 and 110 kilometres off the North-East coast of Scotland

Thank you for the above consultation. Based on the information provided, it appears that this application falls below the thresholds for which SEPA provide site specific advice. Please refer to our SEPA standing advice for the Department for Business, Energy and Industrial Strategy and Marine Scotland on marine consultations available [here](#).

Kind regards,

Susan Haslam

Senior Planning Officer



For the future of our environment

Disclaimer

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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.



Our Ref: OB-00011544,00011545,00011546,00011547-MarramWind-EIA/2026/001

Your Ref: 00011544, 00011545, 00011546 & 00011547 - MarramWind Ltd – MarramWind Offshore Wind Farm – EIA Section 36 consent and Marine Licence Applications - Consultation

20th March 2026

The Casework Officer for this case
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SFF Response to 00011544, 00011545, 00011546 & 00011547 - MarramWind Ltd – MarramWind Offshore Wind Farm – EIA Section 36 consent and Marine Licence Applications - Consultation

On behalf of the Scottish Fishermen's Federation (SFF), I write in response to the statutory consultation on the Section 36 Consent and associated Marine Licence applications (Refs: 00011544, 00011545, 00011546 and 00011547) submitted by MarramWind Ltd for the proposed MarramWind Offshore Wind Farm, pursuant to the Electricity Act 1989, the Marine (Scotland) Act 2010, and the relevant Environmental Impact Assessment Regulations.

The SFF represents the 450 plus fishing vessels through its constituent associations, including the Anglo Scottish Fishermen's Association, Fife Fishermen's Association. Fishing Vessel Agents and Owners Association, Mallaig & North West Fishermen's Association, Orkney Fisheries Association, Scottish Pelagic Fishermen's Association, the Scottish White Fish Producer's Association and Shetland Fishermen's Association. The Chair of the North East Coast Regional Inshore Fisheries Group (NECRIFG) has been consulted and is in agreement with the content of this response.

1. Position Summary

SFF submits a formal objection on the grounds that the proposed development would result in significant, long-term and unmitigated impacts on commercial fisheries, and that the Environmental Impact Assessment and Marine Licence submissions do not demonstrate adequacy or compliance with relevant policy and regulatory requirements. On the basis of the evidence presented, SFF considers the application unsuitable for consent.

Members:

Anglo Scottish Fishermen's Association · Fife Fishermen's Association · Fishing Vessel Agents & Owners Association (Scotland) Ltd · Mallaig & North-West Fishermen's Association Ltd · Orkney Fisheries Association · Scottish Pelagic Fishermen's Association Ltd · The Scottish White Fish Producers' Association Ltd · Shetland Fishermen's Association

VAT Reg No: 605 096 748

Scottish Fishermen's Federation (“SFF”)

The scale of the spatial impact is substantial. The proposed development would result in the long-term loss of access for mobile fleets across approximately 684 km² within the Offshore Array Area, together with disturbance across a further 575 km² along the export cable corridor. The EIAR also identifies potential for an additional wet-storage footprint, the location and extent of which are undefined, creating further uncertainty for fishing operations. Key elements required to assess the scale, duration and operational implications of fishing displacement, navigational risk, seabed hazards and cumulative effects within Plan Option NE7 are either missing, insufficiently evidenced, or deferred to post-consent plans. Several conclusions rely on a broad and unbounded design envelope, generic best practice, or future management documents that do not constrain the design or materially reduce exclusion for fishing vessels from the Project area. The application also accepts long-term, array-scale exclusion of demersal fleets yet provides no credible or proportionate mitigation or compensation framework.

In addition, fisheries-relevant components have been produced by different consultants (NiMa for Commercial Fisheries, Anatec for Safety Zones, and Brown & May for the coexistence/mitigation plan). This fragmented authorship introduces a material risk of inconsistent assumptions on access, navigational lanes, gear interaction, coexistence feasibility and safety-zone usage. The EIA does not provide evidence that these components are coherent or collectively reliable.

In particular, the application does not:

- define a fisheries-robust worst-case scenario, nor set fisheries-critical maxima for moorings, inter-turbine spacing, external cable protection or unburied cable lengths;
- secure enforceable limits on construction and operational footprints, the long-term exclusion footprint created by moorings, dynamic cables and cable protection;
- quantify métier-specific displacement, secondary displacement or income-at-risk for fleets active in NE7;
- reconcile acknowledged array-scale exclusion with the absence of business-level mitigation for affected vessels; or
- provide a credible cumulative assessment for the North East region, as the submitted CEA does not quantify displacement, redistribution or cumulative spatial-squeeze risks identified in policy.

The documentation also fails to address long-term decommissioning liabilities or provide assurance that adequate, ring-fenced and inflation-linked financial securities will be secured at consent stage. On this basis, the SFF requests further information prior to determination, together with a suite of strict consent conditions that would be necessary should Scottish Ministers be minded to grant consent.

2. Policy & Legislation¹

The SFF acknowledges that Chapter 2 provides an extensive catalogue of relevant legislative and policy frameworks including NPF4, the National Marine Plan (NMP), the Sectoral Marine Plan (SMP), the Draft Updated SMP, the Marine Strategy Framework Directive, the Water Framework Directive and the UK Marine Policy Statement. The chapter also recognises the Applicant's intention to apply for Safety Zones under the Energy Act 2004 ²and correctly identifies Schedule 9 duties under the Electricity Act 1989 in relation to amenity, fisheries, and other marine users. However, while Chapter 2 lists policy instruments it does not apply them. The chapter outlines the strategic context but fails to demonstrate how any of these frameworks have shaped, constrained or influenced the design to minimise displacement, reduce exclusion or maintain fishing access. As drafted, Chapter 2 describes policy parameters but does not meet the requirements of the EIA Regulations to show how relevant policy duties and expectations have been applied at design stage and the EIAR does not demonstrate policy-led design choices.

Policy is catalogued rather than operationalised. Despite citing a wide suite of statutory and policy requirements, the chapter provides no evidence that these have informed any binding design choices. There

¹ MarramWind Ltd. Environmental Impact Assessment Report – Volume 1, Chapter 2: Legislative and Policy Context, MAR-GEN-PMG-REP-WSP-000060, 852346-WEIS-IA-O1-RP-M2-656709, prepared by WSP UK Limited, 8 December 2025

² MarramWind Ltd (2025), EIAR Vol.1, Ch.2 Section 2.2.3, Section 2.7.6

is no demonstration that policies requiring coexistence, protection of socio-economic value, safeguarding of legitimate sea users, and minimisation of adverse impacts have influenced decisions on:

- array layout or geometry
- mooring spreads and anchor positioning
- external cable protection strategy
- cable burial targets
- the scale and phasing of Safety Zones
- retention of navigable lanes for fishing vessels
- construction sequencing or nearshore scheduling

Under the EIA Regulations and Schedule 9 of the Electricity Act 1989, the Applicant is required to apply policy, not merely reference it. The absence of a clear policy-to-design justification means the EIAR does not demonstrate that exclusion, displacement or navigation risk have been avoided or minimised before relying on reduction, management or post-consent mitigation.

Schedule 9 duties are acknowledged but not discharged³. Chapter 2 recognises that the Applicant is bound by Schedule 9 (Electricity Act 1989) to have regard to fisheries, other marine users, and the preservation of amenity. However, the EIAR does not:

- explain how Schedule 9 informed design constraints,
- provide any binding limits on the extent of moorings or external cable protection,
- commit to maintaining defined access or transit routes, or
- offer business-level mitigation for long-term array scale exclusion.

This is particularly concerning given that Chapter 14 acknowledges significant residual effects on demersal trawl and seine fisheries. A Schedule 9 duty cannot be discharged by simply listing it. The duty requires demonstrable implementation at the design stage, supported by tangible commitments capable of being secured via consent conditions.

SMP and Draft SMP warnings for NE7 are not translated into obligations. Both the SMP (2020)⁴ and Draft Updated SMP (2025)⁵ identify the NE region and Plan Option NE7 in particular as an area where:

- displacement risk is high,
- spatial squeeze is likely,
- corridor pinch-points may form, and
- cumulative effects may be significant.

However, the chapter simply signposts these documents without reflecting their implications in pre-consent obligations. Policy documents explicitly warning of cumulative fisheries risk must be translated into quantified cumulative assessment, fisheries-specific modelling and regional mitigation requirements.

National Marine Plan (NMP) policies are listed but not applied. NMP General Policies (e.g., GEN1, GEN2, GEN5, GEN7, GEN12)⁶ impose clear requirements on coexistence with other marine users, minimisation of conflict, protection of socio-economic value and avoidance of disproportionate impacts. Chapter 2 references these policies but does not demonstrate how they have influenced the project's key design

³ MarramWind Ltd (2025), EIAR Vol.1, Ch.2 Section 2.2.1.3

⁴ Scottish Government (2020). Sectoral Marine Plan for Offshore Wind Energy. SEA findings for Plan Option NE7 identify significant socio-economic risks associated with loss of fishing grounds.
<https://www.gov.scot/publications/sectoral-marine-plan-offshore-wind-energy/>

⁵ Scottish Government (2025). Draft Updated Sectoral Marine Plan for Offshore Wind Energy – Consultation & SEA. The SEA and supporting assessments highlight constraints, interactions with other users (including fisheries), and cumulative/in-combination effects across Option Areas including NE7. <https://www.gov.scot/publications/draft-updated-sectoral-marine-plan-offshore-wind-energy-2025/>

⁶ Scottish Government (2015). Scotland's National Marine Plan: A Single Framework for Managing Our Seas. General Policies GEN1, GEN2, GEN5, GEN7 and GEN12 set out requirements on sustainable development, coexistence, safeguarding socio-economic benefits, minimisation of conflict, and avoidance of disproportionate impacts.
<https://www.gov.scot/publications/scotlands-national-marine-plan/>

parameters and spatial configuration. NMP compliance requires evidence that alternatives have been tested and impacts minimised through design, not simply an inventory of policy text.

International law omissions – UNCLOS duties⁷. Although environmental directives are referenced, key international obligations are omitted including the UNCLOS “due regard” duty, the obligation to ensure compatibility with other lawful uses of the sea and the requirement to consider impacts on established socio-economic livelihoods such as traditional fishing. For a floating wind array with extensive mooring infrastructure, dynamic cables, and multi-year Safety Zones, the “due regard” duty is materially relevant. The EIAR must show how project design has been developed to avoid or minimise conflict with fishing activity.

Over-reliance on post-consent plans⁸. Chapter 2 lists several plans to be produced post-consent (FMMCP, Cable Plan, Vessel Plan, MPCP, INNS etc.) and implicitly presents them as mitigation. These are management tools, not mitigation. They cannot demonstrate policy compliance because they do not constrain the design envelope which is the source of the exclusion. Reliance on post-consent documentation is inconsistent with the EIA requirement to demonstrate avoidance and minimisation before consent is granted. Moreover, fisheries mitigation plans such as the FMMCP must be developed, agreed in principle with the fishing industry, and subject to scrutiny at determination stage. Deferring these to the post-consent period risks marginalising fisheries input and does not provide the certainty required under the EIA Regulations.

3. Site Selection & Alternatives⁹

The SFF recognises that EIAR Chapter 3 provides a descriptive overview of the Applicant’s optioneering process including high-level references to ScotWind allocation for Plan Option NE7, the fixed SSEN Netherton Hub grid connection point and a narrative outlining various constraints. The chapter also presents the broad design envelope and describes a suite of technical, environmental and commercial considerations. However, as with Chapter 2, the EIAR catalogues options rather than applying the statutory requirements on reasonable alternatives. It does not demonstrate how fisheries constraints have shaped the project’s design envelope in a manner that avoids or minimises displacement. As a result, the chapter describes a selection process but does not satisfy the EIA Regulations’ requirement to show how reasonable alternatives were examined, compared and justified in environmental terms including effects on commercial fisheries.

Alternatives constrained by administrative endpoints, not project characteristics. The EIAR frames the Offshore Array Area (NE7) and the SSEN Netherton Hub grid point as fixed endpoints and on that basis concludes that “reasonable alternatives” are effectively exhausted¹⁰. This approach and interpretation is inconsistent with the Marine Works (Environmental Impact Assessment) (Scotland) Regulations 2017, which require EIARs to include a description of the reasonable alternatives studied by the developer, relevant to the project and its specific characteristics and the main reasons for selecting the chosen option, including a comparison of environmental effects¹¹. Listing fixed administrative endpoint does not remove the duty to consider alternatives in layout, scale, design envelope parameters, routing, technology selection, or siting within the Option Agreement Area (OAA). These are explicitly required under Schedule 4/Annex B¹² and cannot be waived simply because the OAA was allocated through ScotWind or the grid connection is planned at Netherton Hub. The EIAR concludes that alternatives are limited¹³ without demonstrating why or how. This results in an alternatives narrative constrained by administrative boundaries, rather than by the project’s own characteristics, as required under the EIA Regulations.

⁷ https://www.un.org/depts/los/convention_agreements/texts/unclos/unclos_e.pdf

⁸ MarramWind Ltd (2025), EIAR Vol.1, Ch.2 Section 2.1.1.7–2.1.1.12

⁹ MarramWind Ltd. Environmental Impact Assessment Report – Volume 1, Chapter 3: Site Selection and Consideration of Alternatives, MAR-GEN-PMG-REP-WSP-000064, 852346-WEIS-IA-O1-RP-S5-890042, prepared by WSP UK Limited, 8 December 2025

¹⁰ MarramWind Ltd (2025), EIAR Vol.1, Ch.3 Section 3.1.1.2, Section 3.3.2.1, Section 3.1.2.8 – 3.1.2.9

¹¹ Marine Works (Environmental Impact Assessment) (Scotland) Regulations 2017, Regulation 6(2)

¹² Ibid Schedule 4 / Annex II

¹³ MarramWind Ltd (2025), EIAR Vol.1, Ch.3 Section 3.1.1.2, Section 3.3.2.1, Section 3.1.2.8–3.1.2.9, Section 3.3.1.3

SMP and plan-level warnings for NE7 are acknowledged but not operationalised. The EIAR cites the Sectoral Marine Plan for Offshore Wind Energy (2020) and the Draft Updated SMP (2025) but does not translate into design-stage constraints or alternative options that respond to the fisheries risks flagged. No alternative scenarios are presented that would reduce the effects the SMP highlights. As in Chapter 2, policy is referenced but not operationalised.

Mitigation hierarchy is asserted but not demonstrated. The EIAR asserts that the mitigation hierarchy has been “robustly applied” yet provides no evidence that avoidance-led alternatives were explored for commercial fisheries. For a floating array with extensive mooring spreads and dynamic cables, avoidance would require meaningful consideration of design envelope parameters. MD-LOT’s displacement guidance¹⁴ expects alternative scenarios to be tested through mapped, gear-specific, seasonal effort data including VMS, logbooks and spatial fishing intensity analysis. No such analysis is presented. Avoidance is not demonstrated, minimisation is not quantified and displacement is acknowledged only at the assessment stage, not at the design stage where alternatives should be compared. As with EIAR Chapter 2, the mitigation hierarchy is referenced but not implemented.

Fisheries constraints referenced but not treated as determinative design factors. Throughout Chapter 3, fisheries are listed among a broad set of “commercial considerations”¹⁵, not determinative shaping factors. The EIAR provides no evidence that fisheries displacement risk materially shaped the design envelope. Under the EIA Regulations, the reasons for selecting the chosen option must take into account environmental effects, including socio-economic impacts on commercial fisheries¹⁶. Listing fisheries as one constraint without demonstrating how it influenced the design fails to meet these requirements.

Export cable corridor (ECC) and nearshore alternatives not assessed. The EIAR acknowledges fisheries as a constraint in nearshore waters¹⁷ but does not present fisheries-led routing alternatives, export cable number scenarios or protection-minimisation tests. This is a significant omission because export cable trenching, burial refusal and external protection are principal drivers of displacement, snag risk and navigational squeeze in congested inshore grounds. MD-LOT displacement guidance expects explicit analysis of corridor alternatives capable of reducing fisheries conflict¹⁸. No such assessment is presented. Cable number and routing are treated as design flexibility¹⁹ rather than variables to be minimised through a statutory alternatives assessment. This parallels the over-reliance on post-consent plans seen in Chapter 2. The Applicant proposes to manage rather than minimise impacts, which is inconsistent with the EIA Regulations’ front-loaded requirements²⁰.

Design envelope expands uncertainty but does not compare alternatives. The EIAR adopts a wide design envelope (broad ranges for turbine count, mooring configuration, cable lengths and export solutions) but does not use this envelope to compare lower-impact alternatives, as required. Instead, it describes options

¹⁴ Scottish Government (2022). Good Practice Guidance for Assessing Fisheries Displacement by Other Licensed Marine Activities

¹⁵ MarmamWind Ltd (2025), EIAR Vol.1, Ch.3 Section 3.5.1.7 Table 3.3 – Constraints considered for landfall selection, Section 3.8.1.6, Table 3.5 – Constraints considered for the offshore export cable corridor, Section 3.10.1.8, Table 3.6 – Constraints considered for onshore substation selection, Section 3.4.5.8

¹⁶ Marine Works (Environmental Impact Assessment) (Scotland) Regulations 2017, Reg. 6(2)(d) (reasons for the option chosen “taking into account the effects... on the environment”) read with Reg. 5(2)–(3) (EIA factors include population and human health and material assets), which encompass socio-economic effects on commercial fisheries.

¹⁷ MarmamWind Ltd (2025), EIAR Vol.1, Ch.3 Section 3.5.1.7 Table 3.3 “Constraints considered for landfall selection, Section 3.8.1.6 – Table 3.5 “Constraints considered for the offshore export cable corridor, Section 3.8.3.1

¹⁸ Scottish Government (2022), Good Practice Guidance for Assessing Fisheries Displacement by Other Licensed Marine Activities, Section 6.1 and Section 5.1 and Section 5.2

¹⁹ MarmamWind Ltd (2025), EIAR Vol.1, Ch.3 Section 3.5.3.10, Section 3.5.4.5, Section 3.8.2.2, Section 3.8.2.6–3.8.2.8, Section 3.8.3.3, Section 3.8.4.2 and 3.8.4.6

²⁰ Marine Works (Environmental Impact Assessment) (Scotland) Regulations 2017, which require significant effects to be identified before decision-making (Reg. 5(5)), prohibit approval without a completed EIA (Reg. 4), and require front-loaded mitigation and alternatives assessment in the EIAR (Reg. 6(2)(c)–(d))

narratively (e.g., alternative foundation concepts)²¹ without quantitative scoring, spatial mapping of fishing intensity versus infrastructure footprint or displacement modelling. This results in widened uncertainty without demonstrating that reasonable alternatives with reduced fisheries impact were assessed. As with EIAR Chapter 2, a long list of considerations does not constitute compliance.

Inadequate integration with Chapter 14 conclusions. Chapter 14 concludes that demersal trawl and seine fisheries will experience significant residual effects, including exclusion from established grounds within NE7. Yet Chapter 3 does not revisit design-stage alternatives to reduce these impacts. It fails to show that the mitigation hierarchy has been applied to avoid or minimise the very effects the EIAR finds to be significant. This disconnect between Chapters 3 and 14 mirrors the structural gap identified in Chapter 2 where policy and evidence are acknowledged at assessment stage but not translated into design-stage decision-making.

The SFF's position is that EIAR Chapter 3 does not meet the statutory requirements on reasonable alternatives. Under the Marine Works (Environmental Impact Assessment) Regulations 2017, the Applicant must provide a Fisheries-Led Alternatives Schedule, comparing feasible layout scenarios, mooring configurations, export cable routing options, and cable-number scenarios, with quantified access retained and comparative environmental effects (Reg. 6(2)(d) read with Reg. 5(2)–(3)). In line with the Scottish Government's Good Practice Guidance for Assessing Fisheries Displacement (2022), this schedule should be based on mapped, gear-specific, seasonal effort datasets and spatial fishing-intensity analyses that test corridor/layout alternatives capable of reducing fisheries conflict. Until such information is supplied, the alternatives assessment remains incomplete and inadequate.

4. Project Description²²

The SFF recognises that EIAR Chapter 4 sets out the design envelope and describes key components, construction methods, O&M and decommissioning for the project, expressly adopting the Rochdale-style “design envelope” to assess a maximum design scenario while retaining flexibility for detailed design and procurement phases. The chapter confirms phased delivery, grid-driven sequencing and indicative timescales. However, consistent with concerns raised earlier for Chapters 2 and 3, the Project Description largely catalogues engineering options and maximises the assessed envelope, rather than demonstrating how the envelope has been constrained to minimise environmental effects on other users including fishing access and safety. The chapter assembles the broadest possible envelope and labels it a “worst case”. Under the Marine Works EIA regime, the EIAR must front-load avoidance/minimisation and explain reasonable alternatives and the reasons for the option chosen.

Design envelope is extremely broad, unjustified, and not linked to environmental minimisation. Chapter 4 leans heavily on the Rochdale Envelope²³ to justify wide parameter ranges across every project component (turbine spacing, floating platform types, mooring line counts, mooring radii up to 800 m, dynamic cable configurations, export cable trench counts, landfall arrangements and protection types)²⁴. While the chapter repeatedly labels these as “worst-case” maxima²⁵, it does not show why narrower, less intrusive parameters were ruled out, nor how fishing access and interaction risks were used to shape and reduce the ranges. Under Rochdale principles²⁶, a design envelope must be realistic, justified and environmentally optimised, not simply a catalogue of all conceivable options.

²¹ MarramWind Ltd (2025), EIAR Vol.1, Ch.3 Section 3.7.3, Section 3.7.4.2–3.7.4.6, Section 3.7.6.1–3.7.6.4, Section 3.7.5.2–3.7.5.8

²² MarramWind Ltd. Environmental Impact Assessment Report – Volume 1, Chapter 4: Project Description, MAR-GEN-PMG-REP-WSP-000068, 852346-WEIS-IA-O1-RP-P4-311882, prepared by WSP UK Limited, 8 December 2025

²³ MarramWind Ltd (2025), EIAR Vol.1, Ch.4 Section 4.1.2

²⁴ MarramWind Ltd (2025), EIAR Vol.1, Ch.4 Section 4.5.2.2–4.5.2.7, 4.5.3.1, Table 4.7 – Moorings parameters, 4.5.4.1–4.5.4.7, 4.6.10.29, 4.2.3.14, 4.6.11.1–4.6.11.5

²⁵ MarramWind Ltd (2025), EIAR Vol.1, Ch.4 Section 4.1.3, 4.1.2.3 & 4.1.2.4

²⁶ Planning Inspectorate Advice Note Nine: Rochdale Envelope (2018, updated 2025)

Construction methodologies are listed, not screened or justified for minimisation. The Applicant sets out a menu of construction techniques without an alternatives hierarchy or clear environment-led screening to show which options are being selected to reduce disturbance, snag risk or vessel time. All are simply included in the worst case. This produces a “grab-bag” envelope of every possible option, rather than a justified reasonable worst case. The text states methods will be selected later based on surveys and burial risk assessment with a target of burial and 20% protection assumed for worst-case²⁷. No quantified comparison is provided. The EIA Regulations require the Applicant to demonstrate how the design and construction approach has been shaped to lessen environmental effects, not merely list the full range of methods available and defer to post-consent method statements²⁸.

Safety-zone implications are described but not assessed for access and displacement. The chapter confirms 500 m safety zones during construction (including concurrent zones where multiple installation spreads operate) and 50 m pre-/post-commissioning around structures but does not identify how many safety zones may be active at any one time.²⁹ It also projects an offshore construction duration up to 12 years, delivered in three phases³⁰. There is no quantification of the serial and concurrent area unavailable to fishing, transit route pinch-points or phase-by-phase displacement arising from rolling zones and high construction vessel density. Chapter 14 assumes fishing access is “likely to remain possible”, even though floating offshore wind arrays are not compatible with mobile gear operations due to extensive mooring spreads, dynamic cables and subsurface obstructions that create unavoidable trawl and gear-interaction risk, while Chapter 4 clearly describes an extended period of rolling spatial restriction. These two positions cannot be reconciled.

Export cable corridor design is not justified against fishing risk. Chapter 4 presents a very large corridor footprint. Key parameters include up to five trenches (30 m each), burial 1–2 m, ~28 crossings per trench, and rock placement over 20% of the length (berms ~2 m × 7 m) totalling ~1.155 million m³³¹. While the chapter states a “target of 100% burial”³² and that design will be “over-trawlable,”³³ it still assesses very large rock volumes and does not present fisheries-led corridor alternatives nor any quantified snag-risk minimisation against mapped fishing intensity. Under Reg. 6(2)(d)³⁴, alternatives must be compared on environmental effects. Here they are described, not compared.

Mooring footprint is extremely large and unoptimized. The envelope allows up to eight mooring lines per unit, with mooring radii up to 800 m and an explicit mooring footprint ~2.01 km² for the stated maximum, anchors may be drag embedment, driven pile or suction with lines potentially wet-stored ahead of unit installation³⁵. This produces an extensive subsurface obstruction field with major implications for mobile demersal and mobile pelagic trawl fisheries, effectively preventing safe operation of these gears within the array area.. No spacing scenarios, minimum workable gaps, tow-path modelling or snag-risk quantification are presented to demonstrate avoidance or minimisation of obstruction to mobile demersal gears. Although Chapter 3 claims project design has “evolved to reduce impacts”, Chapter 4 shows no evidence of reductions in the mooring system or footprint.

²⁷ MarramWind Ltd (2025), EIA Vol.1, Ch.4 Section 4.6.10.6–4.6.10.9, Section 4.6.10.8, Table 4.12 – Offshore export cable parameters, Table 4.15 – Cable protection requirements

²⁸ Marine Works (Environmental Impact Assessment) (Scotland) Regulations 2017, Reg. 4 (no consent without EIA), Reg. 5(2) & 5(5) (effects identified before determination), and Reg. 6(2)(c)–(d) (front-loaded avoid/prevent/reduce measures and reasonable alternatives with reasons for the option chosen).

²⁹ MarramWind Ltd (2025), EIA Vol.1, Ch.4 Section 4.10.1.1

³⁰ MarramWind Ltd (2025), EIA Vol.1, Ch.4 Section 4.9.1.2, Section 4.9.1.1 & 4.9.1.4, Table 4.1 (Construction scenarios), Section 4.2.2.8

³¹ MarramWind Ltd (2025), EIA Vol.1, Ch.4 Table 4.12 – Offshore export cable parameters, Section 4.6.10.29, Table 4.13 – Cable crossings parameters, Table 4.15 – Cable protection requirements

³² MarramWind Ltd (2025), EIA Vol.1, Ch.4 Table 4.12 – Offshore export cable parameters:

³³ MarramWind Ltd (2025), EIA Vol.1, Ch.4 Section 4.6.11.3

³⁴ Marine Works (Environmental Impact Assessment) (Scotland) Regulations 2017, Reg. 6(2)(d) (EIA must describe reasonable alternatives and the reasons for selecting the chosen option, taking into account environmental effects)

³⁵ MarramWind Ltd (2025), EIA Vol.1, Ch.4 Table 4.6 – Floating unit parameters, Table 4.7 – Moorings parameters, Section 4.5.3.9–4.5.3.12, Table 4.8 – Anchor parameters, Section 4.6.3.1, Section 4.6.5.1

Landfalls and nearshore operations create multi-season disruption with no temporal optimisation. The chapter permits up to three landfalls, 24-hour HDD (or similar) operations, large temporary compounds (up to 345 m × 70 m), up to eight ducts and repeated cable pull-ins, phased across the programme³⁶. These activities overlap with known static-gear hotspots, yet the Applicant presents no seasonal coordination or avoidance strategies. The nearshore area will be repeatedly occupied, but there is no mapping or timing analysis of fishing seasons, gear patterns, or cumulative disruption.

Construction activities interfere with all major gear types but are not quantified. Chapter 4 identifies the activities that drive displacement and gear-interaction (e.g., grapnel runs, boulder clearance, sandwave dredging, anchor installation, cable lay/burial, rock placement, heavy-lift operations, vessel transits)³⁷. Each creates displacement, operational risk and increased interaction probability. Yet it does not quantify area affected per year, kilometers of seabed disturbed, fishing value at risk, debris or obstruction probabilities, or interaction risk based on vessel density. Without quantification, impacts cannot be assessed, minimised or conditioned. Under Reg. 6(2)(c)³⁸, the EIAR should set out measures to avoid, prevent or reduce effects. Simply listing potential practices without front-loaded minimisation is insufficient.

Cable protection types confirmed but incompatible with safe trawling in many areas. Despite the stated aim for routes to be “over-trawlable,”³⁹ the assessed protections are well-known snagging hazards. The EIAR does not map minimisation of protection against high-value grounds or present lower-impact design choices to reduce obstructions. These gaps are correctable but must be addressed at application stage and cannot be deferred to post-consent plans.

The SFF’s position is that EIAR Chapter 4 does not provide a sound basis for assessing fisheries impacts and does not meet the EIA requirements to demonstrate that the design has been shaped to reduce environmental effects.

5. EIA Method⁴⁰

SFF acknowledges that Chapter 5 outlines the Applicant’s general approach to EIA, including topic-by-topic methodologies, the use of a Rochdale design envelope and commitments to proportionality and consistency. The chapter describes the broad structure of significance evaluation (magnitude and sensitivity), references IEMA guidance and sets out general principles intended to provide a “robust and proportionate EIA.”

However, the chapter does not provide the methodological safeguards necessary to ensure that fisheries impacts particularly displacement, tow-path obstruction, snagging risk, and rolling access constraints are properly captured, quantified, and assessed. As with previous chapters, the Applicant outlines process, but does not demonstrate how the process constrains design, aligns assumptions, integrates cross-topic effects, or guarantees that risks to fishing activity are meaningfully evaluated.

The method allows each topic to define its own “worst case” with no combined fisheries Maximum Design Scenario (MDS). Chapter 5 states that the reasonable worst-case scenario may vary by technical aspect and that each aspect chapter provides its own commentary on the worst-case used⁴¹. This codifies a topic-by-topic approach rather than a single, coherent fisheries-relevant MDS that integrates mooring footprint and catenary spread, burial refusal and protection, construction vessel density, rolling safety-zones,

³⁶ MarramWind Ltd (2025), EIAR Vol.1, Ch.4 Table 4.18 – Landfall(s) parameters, Section 4.2.3.14, Section 4.7.3.6, 4.7.1.2–4.7.1.4, 4.7.3.7

³⁷ MarramWind Ltd (2025), EIAR Vol.1, Ch.4 Section 4.6.7.5, 4.6.10.3, 4.6.2.2–4.6.2.4, 4.6.10.1, 4.6.3.2–4.6.3.6, 4.6.5.2–4.6.5.5, 4.6.10.6–4.6.10.23, 4.6.11.1–4.6.11.5, Table 4.15, 4.5.5.4–4.5.5.6, 4.6.8.1–4.6.8.2, 4.6.14.3–4.6.14.7

³⁸ Marine Works (Environmental Impact Assessment) (Scotland) Regulations 2017, Reg. 6(2)(c) (EIAR must set out measures to avoid, prevent or reduce likely significant adverse effects—i.e., front-loaded minimisation within the EIAR). [sgavmst.dk]

³⁹ MarramWind Ltd (2025), EIAR Vol.1, Ch.4 Section 4.6.11.3

⁴⁰ MarramWind Ltd. Environmental Impact Assessment Report – Volume 1, Chapter 5: Approach to the EIA, MAR-GEN-PMG-REP-WSP-000070, 852346-WEIS-IA-O1-RP-M2-750003, prepared by WSP UK Limited, 8 December 2025

⁴¹ MarramWind Ltd (2025), EIAR Vol.1, Ch.5 Section 5.2.1.5, Section 5.6.6.4

export-corridor phasing, and landfall seasonality. Without a unified MDS, fisheries receptors face the true combined worst case that is never actually assessed because each discipline “down-selects” its own maxima independently.

“Negligible” project-alone effects may be screened out before cumulative assessment. The chapter’s proportionate EIA section emphasises scoping out non-significant effects, with decisions left to aspect chapters⁴², while the CEA method is described at a high level. There is no explicit safeguard that fisheries-relevant “negligible” effects (e.g., short rock-berms, small mooring clusters, localised vessel avoidance, short-term nearshore works) are retained for cumulative screening even though many small exclusions aggregate to material displacement. This is a material methodological gap.

Design envelope governance is missing. The chapter repeats the Rochdale design envelope narrative and cites guidance even stating that the envelope should be credible, with parameters realistic, deliverable and justified⁴³. But it does not set rules to achieve that. There is no requirement to progressively tighten parameters as engineering matures, no protocol for resolving conflicts when one topic’s maximum is not the fisheries worst case (e.g., five export trenches for electrical/thermal design vs. fewer trenches for snag-risk minimisation) and no governance preventing inflation of maxima without environmental justification.

In the absence of envelope governance the EIAR Chapters 3 and 4 are able to present inflated maxima (moorings, trenches, rock volumes, corridor widths) that appear to have been “assessed” but were never constrained or justified.

“Appropriate level of assessment” does not commit to fisheries essential resolution. The chapter promises that each topic will use “appropriate level of assessment” drawing on evidence, embedded measures and “aspect-specific methodologies”⁴⁴ but does not commit to the minimum data resolution fisheries assessments require (e.g., metier-level VMS/AIS segmentation, high-resolution static-gear density mapping, seasonal effort layers, trawl manoeuvre/tow-path width vs mooring-spacing tests, and snag-probability modelling). Without these, the sensitivity and magnitude inputs to the significance matrix are under-resolved. Biasing displacement and access-loss risk downward. As a result, displacement and access loss risk can be materially underestimated.

“Proportionate EIA” is asserted, not evidenced by clear decision rules. While the chapter cites IEMA proportionate EIA guidance and describes scoping⁴⁵, it does not show what was scoped out and why, what thresholds/criteria were used, how uncertainty/high-consequence risks were weighted or whether risk-weighting was applied in high-sensitivity areas such as NE7. “Proportionate” means risk proportionate resolution but EIAR doesn’t demonstrate this.

Cross-chapter inconsistencies undermine methodological credibility. Chapter 5 claims robust application of the mitigation hierarchy⁴⁶, yet the alternatives narrative in Chapter 3 does not demonstrate fisheries-led alternatives, avoidance or minimisation (e.g., no mooring-minimisation test, corridor-based layouts, reduced trench counts, or protection-minimisation scenarios). This shows that methodological claims do not match practice. Additionally, Chapter 5 says the design envelope is “credible and realistic”⁴⁷ yet Chapter 4 presents highly inflated maxima (five export trenches, ~1,155,000 m³ rock protection, 800 m mooring radii, up to three landfalls) with no fisheries-led minimisation.

Chapter 5 significance method does not appear to have captured operational access loss from rolling 500 m safety zones or from multi-year construction phasing. Chapter 14 assumes access remains “manageable,” a position incompatible with the Chapter 4 construction programme. These contradictions suggest the methodology is not functioning as described.

⁴² MarramWind Ltd (2025), EIAR Vol.1, Ch.5 Section 5.3.4.2

⁴³ MarramWind Ltd (2025), EIAR Vol.1, Ch.5 Section 5.6.6.2

⁴⁴ MarramWind Ltd (2025), EIAR Vol.1, Ch.5 Section 5.3.4.1, Section 5.3.4.2

⁴⁵ MarramWind Ltd (2025), EIAR Vol.1, Ch.5 Section 5.3.1.1, Section 5.3.1.2–5.3.1.4, Section 5.4.1

⁴⁶ MarramWind Ltd (2025), EIAR Vol.1, Ch.5 Section 5.8.2.3, Section 5.2.1.2, Section 5.8.2.1

⁴⁷ MarramWind Ltd (2025), EIAR Vol.1, Ch.5 Section 5.6.6.2

Significance framework lacks receptor-led integration. The chapter outlines a standard magnitude and sensitivity framework with generic criteria and notes that approaches may vary by aspect with professional judgement⁴⁸. It does not define fisheries-specific sensitivities such as required tow radius for different gears, pair-trawl corridor width, seasonal dependence on grounds, gear-conflict probability or safe manoeuvrability margins around moorings and risers. Nor does it show how the 12-year programme and rolling safety-zones are handled within project-alone significance rather than deferred to CEA. This omission can materially bias significance conclusions downward.

Cumulative and inter-related effects approach is generic and non-committal. The chapter defines inter-related effects and CEA conceptually⁴⁹ but does not commit to the fisheries-critical analyses required in NE7: scenario-based cumulative access modelling, mapping of peak simultaneous safety-zone coverage across ScotWind/INTOG, cumulative mooring footprint analysis, combined corridor alignment & crossing density metrics, or integration of construction vessel traffic, wet storage, anchor pre-lays, serial cable works and tow-outs as continuous constraints (not isolated events). For fisheries, cumulative effects arise precisely from these overlapping, repeated, multi-source pressures. Chapter 5 does not ensure they will be integrated.

Reliance on the Commitments Register without a “mitigation hierarchy to design” chain. Chapter 5 centralises embedded measures in a Commitments Register and states they will be secured via consent conditions⁵⁰. Yet the method provides no traceability chain from policy/risks to design decision to commitment to enforceable condition, and no requirement that avoid/prevent/reduce measures be demonstrated at design stage (e.g., limiting mooring radius, reducing trench count, minimising rock protection, altering cable alignments) before relying on offset/monitoring. This falls short of the front-loaded duty in Reg. 6(2)(c)⁵¹ to set out design measures to avoid, prevent or reduce effects in the EIAR itself.

Spatial scope does not reflect operational fishing access needs. Spatial scope is described per topic⁵² but does not define functional access footprints relevant to fishing activity such as: continuous navigable corridors between grounds, safe turning radii near moorings/dynamic risers, gear-retrieval “safe boxes” at crossings/rock berms, or towing manoeuvre buffers. This omission propagates into Chapters 14 and 33, which then assess impacts without a proper definition of what “access” means in a functional sense.

Temporal scope underestimates serial and rolling exclusion. Although Chapter 5 recognises construction, O&M and decommissioning stages, it sets no requirement for year-by-year mapping of active zones, rolling safety-zone footprints, anchor pre-lay timelines, or sequential cable operations. For a 12-year construction programme, temporal aggregation is a major driver of fisheries impact. The methodology does not guarantee that it is assessed at project-alone stage.

Under the Marine Works (EIA) (Scotland) Regulations 2017, the EIAR must:

- be completed before determination (no consent without EIA) and identify, describe, assess significant effects before the decision (Reg. 4; Reg. 5(2), 5(5)); and
- include measures to avoid, prevent or reduce effects (Reg. 6(2)(c)) and a description of reasonable alternatives with the reasons for the option chosen taking into account environmental effects (Reg. 6(2)(d)).

Chapter 5, as drafted, does not operationalise these duties for fisheries. It permits dispersed worst-cases, lacks envelope-governance and receptor-led integration, and does not ensure front-loaded minimisation is translated into design rather than post-consent plans.

⁴⁸ MarramWind Ltd (2025), EIAR Vol.1, Ch.5 Section 5.7.1.1, Section 5.7.1.2

⁴⁹ MarramWind Ltd (2025), EIAR Vol.1, Ch.5 Section 5.10, Section 5.11

⁵⁰ MarramWind Ltd (2025), EIAR Vol.1, Ch.5 Section 5.3.3.3, Section 5.8.4.1

⁵¹ Marine Works (Environmental Impact Assessment) (Scotland) Regulations 2017

⁵² MarramWind Ltd (2025), EIAR Vol.1, Ch.5 Section 5.6.4

6. Physical Processes⁵³

SFF acknowledges the detailed physical baseline and clear scope presented in Chapter 6. However, its methodological choice to treat most physical changes as “pathways” rather than assessable effects removes key seabed-altering activities from the significance matrix. This approach obscures fisheries-critical consequences because seabed form and roughness the proximate drivers of snag probability, gear safety and long-term fishability are neither scored for significance nor integrated with Chapter 14 (Commercial Fisheries). The summary table then records “N/A” for significance wherever a change is classed as a pathway. That is a structural adequacy flaw for a project in NE7.

Method choice suppresses significance. Chapter 6 explicitly states that marine geology, oceanography, physical processes are “pathways” rather than receptors and therefore no sensitivity or significance ratings are assigned for changes in SSC, tidal/wave regime, sediment transport, scour, or decommissioning plumes⁵⁴. The chapter instead describes the spatial and temporal nature of change and defers effects to other chapters⁵⁵. The same approach is repeated across construction, O&M and decommissioning sections and it is reflected in the summary table⁵⁶ where pathway items are “N/A” for significance. This structurally excludes the very seabed changes that determine fisheries risk.

Maximum Design Scenario (MDS) - very large physical disturbance but no fisheries-led constraint.

Chapter 6 adopts highly inflated, untested and unjustified MDS. It includes extremely large disturbance parameters (~1,800 anchors (225 WTGs × 8), ~530 km of array trenching at ~30 m width × 2 m depth, up to five export trenches over ~140 km, ~35,000 m³ sandwave clearance, and cable-protection volumes of ~1,122,000 m³ (array) and ~1,155,000 m³ (export) with berms ~2 m (H) × 7 m (W) and up to eight HDD exit pits)⁵⁷ but assigns negligible magnitude to almost all consequences⁵⁸, without evidencing minimisation, justification or integration with fisheries assessments elsewhere in the EIAR (the design envelope and reasonable-worst-case principles set out in Chapter 5).

Sandwave levelling impacts are materially understated. The chapter 6 acknowledges that sandwaves exceeding 3m may require full or partial removal and that volumes up to ~35,000 m³ could be displaced along the corridor⁵⁹. It further concedes that recovery may range from “many decades” (based on low migration rates) to ~1.5 years under episodic high-transport conditions yet still assigns “very low” magnitude to the impact on designated seabed features⁶⁰. That rating does not reflect the operational reality for demersal gears where prolonged roughness change and re-working cycles can materially affect fishability. This represents a material gap in the assessment.

Disposal mounds are under-evaluated despite long-term persistence. Chapter 6 states that disposal mounds particularly from moraine/boulder clay are likely semi-permanent or permanent, up to a few metres high and tens of metres across with possible armouring as fines winnow out⁶¹. Despite acknowledging long-term persistence and roughness, the effect on designated features is still rated “very low magnitude”⁶². For fisheries, such mounds are functionally new seabed obstructions with long-term tow-path implications and snagging risk that should be explicitly integrated with Chapter 14 not left as a pathway note.

⁵³ MarramWind Ltd. Environmental Impact Assessment Report – Volume 1, Chapter 6: Marine Geology, Oceanography and Physical Processes, MAR-GEN-ENV-REP-WSP-000074, 852346-WEIS-IA-O1-RP-M6-112265, prepared by WSP UK Limited, 8 December 2025

⁵⁴ MarramWind Ltd (2025), EIAR Vol.1, Ch.6 Section 6.4.4.8, Section 6.9.2, Section 6.10.2-4, Section 6.10.7, Section 6.11.2, Table 6.14

⁵⁵ MarramWind Ltd (2025), EIAR Vol.1, Ch.6 Section 6.9.2

⁵⁶ MarramWind Ltd (2025), EIAR Vol.1, Ch.6 Table 6.14

⁵⁷ MarramWind Ltd (2025), EIAR Vol.1, Ch.6 Table 6.6: Maximum Design Scenario, Sections 6.7.1–6.7.2

⁵⁸ MarramWind Ltd (2025), EIAR Vol.1, Ch.6 Table 6.14

⁵⁹ MarramWind Ltd (2025), EIAR Vol.1, Ch.6 Section 6.9.3.9, Table 6.6

⁶⁰ MarramWind Ltd (2025), EIAR Vol.1, Ch.6 Section 6.9.3

⁶¹ MarramWind Ltd (2025), EIAR Vol.1, Ch.6 Section 6.9.3.23–6.9.3.24

⁶² MarramWind Ltd (2025), EIAR Vol.1, Ch.6 Section 6.9.3.27

Cable protection and exposure. The MDS allows extensive cable protection (rock berms ~2 m × 7 m) and confirms initial sediment wedge formation and local secondary scour around berms, with “void infilling” over weeks to months in mobile sand fields⁶³. Cable exposure is also acknowledged with additional local scour and reburial as the proposed remedy again treated as “very low” magnitude in the coastal/nearshore context⁶⁴. None of these physical outcomes are linked to trawl safety or snag probability in this chapter.

Cross-chapter contradictions. Chapter 4 establishes an extremely large physical disturbance footprint within the MDS. However, Chapter 6 subsequently assigns “very low” or “negligible” magnitude ratings to the vast majority of physical changes arising from this footprint and marks all physical-process pathways as “N/A” for significance. These two positions appear inconsistent. If the disturbance footprint is as large as defined in Chapter 4 then very low/negligible magnitude ratings require a clear justification which is not provided. Chapter 6 describes several long-lived morphological changes that directly affect tow-path viability. These changes are inconsistent with the assumption in Chapter 14 that the seabed will remain broadly trawl-safe and that gear-interaction risk remains low. Chapter 5 states that the project has applied the avoid -minimise-mitigate hierarchy but Chapter 6 does not demonstrate hierarchy principles have actually been implemented in relation to physical seabed impacts. coastal sediment budgets affecting fishing grounds.

7. Water/Sediment Quality⁶⁵

SFF acknowledges the presentation of baseline contaminant data and the alignment of the Chapter 7 Maximum Design Scenario (MDS) with the physical processes in Chapter 6. However, the assessment methodology adopted in Chapter 7 contains material adequacy gaps. Chapter 7 repeatedly classifies suspended sediment concentration (SSC), turbidity and related parameters as “pathways” rather than impacts, which results in no sensitivity rating and no significance conclusion for the main water-quality vector during construction. This methodological position directly mirrors the flaw identified in Chapter 6 and leads to under-assessment of effects relevant to WFD status, MSFD Good Environmental Status, bathing waters, shellfish waters and commercial fisheries.

Treating SSC as a “pathway only” removes it from the significance framework.

Chapter 7 repeatedly states that SSC is a pathway affecting other receptors and therefore does not receive its own significance rating⁶⁶. This approach removes from the assessment the single most important water-quality driver during trenching, dredging, sandwave clearance, disposal, anchor handling, and HDD breakout⁶⁷. Withholding significance for SSC creates a structural blind spot, particularly in NE7 where sediment mobility is high, trench widths are large and nearshore receptors are sensitive. The magnitude descriptions imported from Chapter 6 (local SSC of hundreds–thousands mg/L within 25–250 m of activities; rapid deposition of sands/gravels; persistence of fine SSC for up to a day) are not translated into a receptor-facing impact assessment under the WFD/MSFD framework⁶⁸.

EQS selection and interpretation is overly lenient.

The chapter defaults to Maximum Allowable Concentration Environmental Quality Standard (MAC EQS) for interpreting short-term plume events⁶⁹, while down-weighting Annual Average Environmental Quality Standard (AA EQS) exceedances as “not meaningful” in Chapter’s own tables for OAA, export corridor and

⁶³ MarramWind Ltd (2025), EIA Vol.1, Ch.6 Table 6.6, Section 6.10.4.15–6.10.4.19

⁶⁴ MarramWind Ltd (2025), EIA Vol.1, Ch.6 Section 6.10.6.6 – 6.10.6.14

⁶⁵ MarramWind Ltd. Environmental Impact Assessment Report – Volume 1, Chapter 7: Marine Water and Sediment Quality, MAR-GEN-ENV-REP-WSP-000080, 852346-WEIS-IA-O1-RP-M3-256239, prepared by WSP UK Limited, 8 December 2025

⁶⁶ MarramWind Ltd (2025), EIA Vol.1, Ch.7 Section 7.9.2.5

⁶⁷ MarramWind Ltd (2025), EIA Vol.1, Ch.7 Section 7.9.2.13

⁶⁸ MarramWind Ltd (2025), EIA Vol.1, Ch.7 Section 7.9.2.6–7.9.2.12

⁶⁹ MarramWind Ltd (2025), EIA Vol.1, Ch.7 Section 7.9.3.8

landfall⁷⁰. These exceedances are dismissed because MAC values are not breached. This practice is inappropriate for High-status WFD coastal water bodies, where AA EQS protect against repeated short-term contaminant loads construction spans multiple seasons with repeated burial, trenching and HDD activities. Contaminants without MAC EQS are effectively unregulated in this assessment despite AA exceedance. No alternative risk-based approach is offered.

Blue carbon conclusions are asserted without evidence.

The chapter adopts a precautionary assumption “assume 100% of disturbed Organic Carbon (OC) becomes CO₂”⁷¹ yet declares negligible blue-carbon impact “Magnitude of impact is expected to be negligible”⁷². Without the arithmetic, the conclusion cannot be substantiated.

8. Underwater Noise⁷³

SFF acknowledges that Chapter 8 is a technical modelling chapter that does not itself assign significance. However, it provides the acoustic foundation for Chapter 13 (Fish Ecology) and Chapter 14 (Commercial Fisheries). Therefore, its modelling assumptions, behavioural parameters and propagation methods must be robust, precautionary and realistic for the NE7 region. While the chapter provides a clear description of the MDS several aspects of the modelling introduce systematic under-assessment risks, particularly for fish and commercial fisheries.

Particle Motion (PM) is recognised as critical but excluded from modelling. The chapter notes that NatureScot and regulators requested particle-motion (PM) consideration for fish and shellfish, referencing the current science⁷⁴. The Applicant states “No criteria for particle motion detection are currently in existence” and therefore pressure metrics are used for all fish species⁷⁵.

This approach introduces a significant methodological gap. PM-sensitive groups in NE7 including sandeel, herring eggs, cod, flatfish, juvenile stages and buried species are assessed using criteria that do not reflect their actual sensitivity. The EIAR therefore lacks a defensible method for assessing the fish groups most likely to be affected by piling and UXO noise.

“Simplified” non-piling modelling omits site-specific propagation. Chapter 8 states “A simplified modelling approach... did not incorporate bathymetric or environmental data... [and] applied standard transmission-loss calculations”⁷⁶. For trenching, dredging, drilling, rock placement, suction caissons and cable lay, the modelling uses generic transmission-loss formulas rather than site-specific propagation. Without site-specific propagation, the EIA cannot demonstrate that seasonal scheduling, micro-planning, or spatial avoidance measures are adequate.

Operational noise modelling relies on fixed-bottom calculators⁷⁷ despite known uncertainties for floating systems. Chapter 8 acknowledges that floating offshore wind turbines (FOWTs) noise is more complex⁷⁸ but no characterisation for the actual MarramWind turbine designs is provided and no monitoring requirement is committed. Given the early stage of floating turbine acoustics science, omission of an uncertainty envelope is a notable adequacy gap.

⁷⁰ MarramWind Ltd (2025), EIAR Vol.1, Ch.7 Section 7.9.3.10 - 7.9.3.12

⁷¹ MarramWind Ltd (2025), EIAR Vol.1, Ch.7 Table 7.1

⁷² MarramWind Ltd (2025), EIAR Vol.1, Ch.7 Section 7.9.7.8

⁷³ MarramWind Ltd. Environmental Impact Assessment Report – Volume 1, Chapter 8: Underwater Noise, MAR-GEN-ENV-REP-WSP-000083, 852346-WEIS-IA-O1-RP-U7-369911, prepared by WSP UK Limited, 8 December 2025

⁷⁴ MarramWind Ltd (2025), EIAR Vol.1, Ch.8 Table 8.1; stakeholder issues 302 and 522

⁷⁵ MarramWind Ltd (2025), EIAR Vol.1, Ch.8 Section 8.7.3.13

⁷⁶ MarramWind Ltd (2025), EIAR Vol.1, Ch.8 Section 8.7.2.6

⁷⁷ MarramWind Ltd (2025), EIAR Vol.1, Ch.8 Predictions rely on Tougaard et al. (2020) fixed-bottom calculators (Sec. 8.8.2.6)

⁷⁸ MarramWind Ltd (2025), EIAR Vol.1, Ch.8 Section 8.8.2.5

UXO noise ranges are extensive and lacks a binding mitigation framework. Chapter 8 provides large impact ranges⁷⁹:

- High-order UXO: fish mortality 580–970 m
- Low-order UXO: fish mortality <50–60 m

And although Table 8.2 lists measure M-114 “low-order where possible”, this is not a binding commitment. Chapter 8 also states that “High-order would only be used in exceptional circumstances.”⁸⁰. However, no definition of “exceptional circumstances”, binding decision tree, no required mitigation and no exclusions are provided. For commercial fisheries, this is a significant adequacy gap.

9. Electromagnetic Fields (EMF)⁸¹

SFF recognises that Chapter 9 is a technical source chapter that quantifies EMF emitted by array and export cables using Biot–Savart analytical modelling implemented in MATLAB⁸². It explicitly does not assign significance⁸³ rather its outputs are intended to feed the receptor-led assessments in Chapter 13 (Fish Ecology), Chapter 14 (Commercial Fisheries) and Chapter 23 (Freshwater/Diadromous). Accordingly, accuracy, completeness and biological relevance of the EMF modelling are critical to support defensible downstream conclusions.

Unrealistic “absolute worst-case system” composition lacks transparency. The chapter models the EMF environment as though MarramWind were built using 100% HVAC and 100% HVDC export systems⁸⁴. The chapter admits these are not realistic scenarios, stating “This is particularly conservative... This absolute worst case is highly conservative and is not a realistic scenario... the specifics of these phases are not yet defined.”⁸⁵ However, the real project will be a mixed system deployed in phases. This means the EIAR does not produce a realistic EMF footprint and cannot reliably inform receptor-based significance assessments in Chapter 13 and 14.

Array cable clustering around SDCs is not spatially mapped. Chapter 9 acknowledges that the highest EMF intensities arise where “multiple array cables are converging to terminate at a subsea distribution centre (SDC)”⁸⁶. The design parameters include “up to 8 cables connected to subsea distribution centres” with 6.5 m separation⁸⁷ but no spatial heatmaps of EMF around actual SDC locations are provided. For fisheries, these locations are critical. SDC nodes are locations where trawl gear, creels, and static gear most commonly interact with cable clusters. The absence of SDC-focused spatial analysis is a significant adequacy gap.

Burial and protection narrative is technically incorrect. The chapter states correctly that “Magnetic fields are not attenuated by the ground, earth or sediment.”⁸⁸ And “...field profiles are equally applicable to buried cables, cables on the seabed, and those in the water column.”⁸⁹ However, embedded environmental measures⁹⁰ imply that burial or rock placement “reduces EMF exposure” or “provides EMF containment”. These statements are physics-incorrect. This inconsistency must be corrected across the EIA, particularly in Chapters 13 and 14 where burial is repeatedly treated as EMF mitigation contradicting Chapter 9 own technical statements.

⁷⁹ MarramWind Ltd (2025), EIAR Vol.1, Ch.8 Section 8.8.2.16

⁸⁰ MarramWind Ltd (2025), EIAR Vol.1, Ch.8 Section 8.8.2.12–8.8.2.13

⁸¹ MarramWind Ltd. Environmental Impact Assessment Report – Volume 1, Chapter 9: Electromagnetic Field, MAR-GEN-ENV-REP-WSP-000089, 852346-WEIS-IA-O1-RP-E7-150004, prepared by WSP UK Limited, 8 December 2025

⁸² MarramWind Ltd (2025), EIAR Vol.1, Ch.9 Section 9.8.2.1–9.8.2.4

⁸³ MarramWind Ltd (2025), EIAR Vol.1, Ch.9 Section 9.1.1.3

⁸⁴ MarramWind Ltd (2025), EIAR Vol.1, Ch.9 Section 9.8.2.4

⁸⁵ *ibid*

⁸⁶ MarramWind Ltd (2025), EIAR Vol.1, Ch.9 Section 9.9.1.4

⁸⁷ MarramWind Ltd (2025), EIAR Vol.1, Ch.9 Table 9.5

⁸⁸ MarramWind Ltd (2025), EIAR Vol.1, Ch.9 Table 9.5 justification

⁸⁹ MarramWind Ltd (2025), EIAR Vol.1, Ch.9 Section 9.9.1.5

⁹⁰ MarramWind Ltd (2025), EIAR Vol.1, Ch.9 Table 9.6

Cumulative EMF with neighbouring projects is not analysed. Chapter 9 presents only single-project, non-interacting EMF results. Despite cumulative assessment being referenced⁹¹, the chapter provides no cumulative EMF outputs, making it impossible for Chapter 33 to deliver robust conclusion.

10. Benthic Ecology⁹²

SFF welcomes the transparent description of the Applicant's maximum design scenario (MDS) and the clear list of benthic residuals in Chapter 10⁹³. However, this report is framed solely through an ecological lens. It quantifies very large, coherent seabed footprints but then by relying on ecology-only significance tests, concludes largely Minor / Not Significant outcomes. That framing omits the operational implications for commercial fisheries which unless they are explicitly carried forward are lost in Chapter 14 (Fisheries).

EMF narrative is internally inconsistent and needs correction. Chapter 10 adopts the 50 μ T EMF envelopes from Chapter 9 (66 kV AC $\sim$ 0.8 m, 275 kV HVAC $\sim$ 1.15 m, 525 kV HVDC $\sim$ 11 m horizontal / 7 m vertical per pole). But its mitigation and embedded measures text suggest burial reduces EMF exposure. Chapter 9 is explicit that magnetic fields are not attenuated by sediment, burial increases standoff but does not reduce the magnetic field produced by the conductor. Chapter 10 own wording therefore needs correction and alignment across the EIARs. In addition, for fisheries relevance, induced E-field estimates should be provided around SDC approach fans where multiple array cables converge. Chapter 10 recognises these nodes but does not map their EMF gradients.

11. Fish Ecology⁹⁴

SFF recognises that Chapter 13 sets out the receptor-led assessment for pelagic, demersal, elasmobranch and diadromous fish across construction, O&M and decommissioning⁹⁵. The study area is the OAA with export corridor up to MHWS and a 50 km Zone of Influence (ZOI)⁹⁶, adopted to capture potential underwater noise ranges and diadromous movements, with explicit reliance on modelling and methods in Chapters 6 to 9 (physical processes, water/sediment, underwater noise, EMF) and concludes Minor Adverse or Negligible (Not Significant) for all fish receptors, including cumulatives⁹⁷. However, the methodological treatment under-weights sensitivity in the nearshore export corridor (0–10 km) precisely where the chapter's own baseline places sandeel preferred sediments and the few herring suitable/sub-prime stations, a gap made more significant by ICES advice identifying the sensitivity of Northern North Sea herring spawning components to disturbance, which the EIAR does not address or map in relation to the export corridor, and where jet-trenching, HDD punch-outs, rock protection and any future repairs will be concentrated. The result is a set of Minor/Negligible conclusions that do not reflect the spatial coincidence of sensitive substrate-specific life stages with the corridor works.

12. Commercial Fisheries⁹⁸

SFF welcomes the clarity of authorship (NiMa) and the Applicant's intent to accompany Chapter 14 with delivery plans (FMMCP, Cable Plan, Vessel Plan) and a separate Safety Zone Statement. However, as drafted, the commercial-fisheries assessment does not provide a reliable basis for determination. Material deficiencies remain around array-scale exclusion, safety-zone stacking, design-envelope governance, and

⁹¹ MarramWind Ltd (2025), EIAR Vol.1, Ch.9 Section 9.13

⁹² MarramWind Ltd. Environmental Impact Assessment Report – Volume 1, Chapter 10: Benthic, Epibenthic and Intertidal Ecology, MAR-GEN-PMG-REP-WSP-000077, 852346-WEIS-IA-O1-RP-B4-736384, prepared by WSP UK Limited, 8 December 2025

⁹³ MarramWind Ltd (2025), EIAR Vol.1, Ch.10 Tables 10.19–10.20

⁹⁴ MarramWind Ltd. Environmental Impact Assessment Report – Volume 1, Chapter 13: Fish Ecology, MAR-GEN-ENV-REP-WSP-000008, 852346-WEIS-IA-O1-RP-F4-285191, prepared by WSP UK Limited, 8 December 2025

⁹⁵ MarramWind Ltd (2025), EIAR Vol.1, Ch.13 Section 13.1.1.1, Section 13.9 -11, Section 13.4.4 and Table 13.2

⁹⁶ MarramWind Ltd (2025), EIAR Vol.1, Ch.13 Section 13.4.2

⁹⁷ MarramWind Ltd (2025), EIAR Vol.1, Ch.13 Section 13.12; Table 13.29; Section 13.15; Section 13.16

⁹⁸ MarramWind Ltd. Environmental Impact Assessment Report – Volume 1, Chapter 14: Commercial Fisheries, MAR-GEN-ENV-REP-WSP-000010, 852346-WEIS-IA-O1-RP-CF-811786, prepared by NiMa Consultants, 8 December 2025

cumulative risk in the North-East region flagged by the Sectoral Marine Plan. These are pre-consent adequacy matters under the EIA regime and MD-LOT's licensing guidance, not issues that can be left to post-consent plans. Chapter 14 cites FLOWW guidance among the "relevant technical guidance" and commits to adherence via M-052 and the FMMCP description (Table 14.8). SFF records that it has withdrawn from FLOWW and does not support FLOWW as the framework standard for Scottish fisheries mitigation.

Array-scale, long-term loss of access is accepted but not remedied. EIAR assumes fishing won't resume in the OAA during construction and is "unlikely to resume" in operation⁹⁹. demersal otter trawl remains Significant at residual¹⁰⁰. There is no array-scale, business-level remedy (only a sector fund that excludes compensation) while Disruption Agreements are offered only for those fleets the EIAR identifies as significantly affected within the export cable corridor in construction¹⁰¹. This omission is particularly significant given the economic importance of the area. Chapter 14 reports an average of approximately £24.2 million in annual first-sale value landed from the local study area (2019–2023), peaking at £35.2 million in 2019, with the wider regional study area averaging £71.1 million annually (peaking at £95.7 million)¹⁰². The Scottish Government SEIA (2025e) further estimates a present-value economic cost of £10.3 million over 50 years for commercial fisheries within NE7 under an assumption of complete loss of fishing activity and no viable displacement¹⁰³. That asymmetry is not justified and leaves an acknowledged, significant effect unaddressed at consent stage. (Policy context: EIA Regulations require mitigation/alternatives to be considered before consent; process plans alone do not discharge that duty.) In addition, the long-term exclusion of fishing fleets from established grounds engages the UK's obligations under the International Covenant on Economic, Social and Cultural Rights (ICESCR)¹⁰⁴. Articles 6 and 11 protect the right to work and the right to an adequate standard of living, including for communities whose livelihoods depend on access to natural marine resources. These duties reinforce the requirement to avoid and minimise displacement at the design stage and not rely on post-consent process measures as a substitute for meaningful mitigation.

"Access Corridor" appears non-functional for towing. A ~29 km² (~4% OAA) pipeline "Access Corridor" is put forward¹⁰⁵ but the EIAR itself concedes uncertainty that demersal trawling could practically resume there¹⁰⁶. Mitigation that the assessment does not itself consider workable cannot reduce significance. In addition, the Access Corridor follows the Golden Eagle–Claymore pipeline solely to maintain required pipeline protection and was not developed as a fisheries mitigation measure, it therefore cannot be treated as evidence that the project has provided functional access for mobile fleets.

Furthermore, the Access Corridor does not provide the manoeuvring room required for vessels to comply with COLREGs¹⁰⁷. In a head-on or crossing situation, fishing vessels must make an early and substantial alteration to starboard, but within such a narrow corridor this forces vessels toward moorings, dynamic cables or cable-protection features. Any evasive turn risks crossing un-trawlable seabed at high angles, creating a credible snagging and gear-loss hazard. A corridor that does not allow safe COLREG-compliant avoidance manoeuvres cannot be considered operationally viable for towed-gear fleets.

⁹⁹ MarramWind Ltd (2025), EIAR Vol.1, Ch.14 Section 14.9.2.16; Table 14.7 (C1)

¹⁰⁰ MarramWind Ltd (2025), EIAR Vol.1, Ch.14 Section 14.9.2.33; 14.9.2.45–.46

¹⁰¹ MarramWind Ltd (2025), EIAR Vol.1, Ch.14 Table 14.12 (M-219), M-218. Table 14.13; Section 14.9.3.34

¹⁰² MarramWind Ltd (2025), EIAR Vol. 1, Chapter 14 (Commercial Fisheries), Section 14.4.7.2 and Plate 14.1 (MMO landings data 2019–2023)

¹⁰³ Scottish Government (2025e). Socio-Economic Impact Assessment (SEIA) for Plan Option NE7 (Present-value cost estimate for commercial fisheries)

¹⁰⁴ The UK is a State Party to the International Covenant on Economic, Social and Cultural Rights (ICESCR)

¹⁰⁵ MarramWind Ltd (2025), EIAR Vol.1, Ch.14 Table 14.12 (M-220)

¹⁰⁶ MarramWind Ltd (2025), EIAR Vol.1, Ch.14 Section 14.9.2.46

¹⁰⁷ International Regulations for Preventing Collisions at Sea (COLREGs), Rule 14 (Head-on situation), which requires both vessels to make an early and substantial alteration to starboard when meeting on reciprocal or nearly reciprocal courses, and to assume a head-on situation if in any doubt

Design-envelope maxima drive high exclusion but are not secured by caps. Large “reasonable worst-case” inputs (e.g., 8 moorings per WTG, 800 m radii; up to 20% of export length externally protected; 136 km of unbundled array cable)¹⁰⁸ are not carried through into consent-level maxima (caps) or route-specific constraints via CBRA¹⁰⁹. Without binding maxima, the EIAR cannot assure the assessed significance will not be exceeded in detailed design.

Cumulative displacement in the North-East region is under-worked. The Sectoral Marine Plan (2020) explicitly warns that North-East Plan Options concentrate risk like displacement, barrier effects and corridor pinch-points where mitigation space is limited if multiple projects cluster. Chapter 14 acknowledges cumulative significance for demersal otter trawl but offers narrative and post-consent “working groups” rather than quantified regional redistribution/income-loss modelling. SMP expectations point to quantified cumulative analysis now, not only post-consent monitoring.

Displacement methodology is referenced but not implemented quantitatively

MD-LOT’s referenced good-practice guidance¹¹⁰ expects transparent data, clear handling of primary and secondary displacement and presentation of assumptions and uncertainties. Chapter 14 cites the guidance but does not provide modelled outcomes (e.g., P10–P90 income loss, extra steaming, effort re-distribution by metier/phase)¹¹¹. That falls short of good practice.

Baseline and data issues. Under-15 m and vessel-level dependency VMS/AIS and ICES rectangle landings are a start, but <15 m coverage gaps and steaming/fishing separation issues remain. Statements that “no single vessel is disproportionately reliant”¹¹² lack transparent vessel-level dependency tables for the precise OAA/ECC overlap. Good practice expects vessel or fleet-segment dependency metrics where significant exclusion is anticipated.

Inshore seasonal dynamics in the ECC. Seasonal congestion (e.g., summer scallop peaks, static-gear density near landfalls and increased effort from small-scale vessels targeting line-caught mackerel) is not mapped against construction windows¹¹³. Where Disruption Agreements are proposed, EIA still needs to evidence avoidance and minimisation first (seasonal phasing) before compensation.

Non-UK fleets trends. Post- EU–UK Trade and Cooperation Agreement (TCA) utilisation shifts should be split pre-/post-2021 in rectangles intersected by the ECC to support future-baseline claims¹¹⁴. This is currently narrative, not evidence.

Method & significance. Construction duration and magnitude rating. The EIAR uses a 12-year construction window but rates OAA construction magnitude Medium for demersal otter trawl¹¹⁵. Under the EIAR’s own duration thresholds, a long-term, functional exclusion should bias High magnitude where material dependency exists, which would lift significance.

Cable-protection and crossing practice. The EIAR claims “mattresses only in isolation and not in fished areas,” However, elsewhere the export cable crossing methodology defaults to mattress plus rock placement, including on sections of the export cable corridor that directly overlap established scallop and demersal trawl grounds¹¹⁶. This is a material inconsistency. Mattress and rock configurations create permanent, non-trawlable obstructions, and their use within active fishing grounds must be explicitly assessed not

¹⁰⁸ MarramWind Ltd (2025), EIAR Vol.1, Ch.14 Table 14.7 (C1/C2/O1/O2)

¹⁰⁹ MarramWind Ltd (2025), EIAR Vol.1, Ch.14 Table 14.8 (M-029, M-054)

¹¹⁰ Scottish Government Good Practice Guidance (2022)

¹¹¹ MarramWind Ltd (2025), EIAR Vol.1, Ch.14 Section 14.9.4.3–.4

¹¹² MarramWind Ltd (2025), EIAR Vol.1, Ch.14 Section 14.9.2.13

¹¹³ MarramWind Ltd (2025), EIAR Vol.1, Ch.14 Section 14.6.1.16–.21; 14.6.1.24, Table 14.7 (C2)

¹¹⁴ MarramWind Ltd (2025), EIAR Vol.1, Ch.14 Section 14.6.2.6–.10, 14.5.4.3

¹¹⁵ MarramWind Ltd (2025), EIAR Vol.1, Ch.14 Section 14.8.2.10–.13, 14.9.2.8; 14.9.2.16; 14.9.2.33

¹¹⁶ MarramWind Ltd (2025), EIAR Vol.1, Ch.14 Table 14.1 (ID 758 + response)

assumed acceptable. To ensure transparency and risk-based design, the Applicant must provide route-specific CBRA outputs and commit to hard consent caps specifying allowable lengths, areas and locations for each protection type. Without these binding limits, the EIAR cannot demonstrate that cable protection has been minimised or that seabed hazards for fishing vessels have been appropriately controlled¹¹⁷.

Navigability through the OAA. Beyond the small pipeline “Access Corridor”, there is no commitment to maintain tow-capable lanes through the array¹¹⁸. Given 500 m “advisory” clearances to installation vessels and future O&M activity, practical navigability may be substantially poorer than portrayed for pair-trawl/twin-rig operations.

Embedded mitigation and residual effects

The suite of process-based measures proposed by the Applicant (FMMCP, Cable Plan, Vessel Plan, CFLO, working groups) represents a good practice but largely administrative¹¹⁹. It does not reduce the physical footprint, shorten the duration of exclusion, or eliminate snagging hazards created by moorings, cable protection and crossings. Where material, long-term physical risks remain, engineering limits and enforceable design constraints are required not solely management plans. As drafted, none of the process-focused measures materially changes the functional loss of access within the OAA, and therefore the array-scale residual impact remains Significant.¹²⁰ In addition, the magnitude terms applied in Chapter 14 (e.g., “slight loss”, “minor loss”, “partial loss”, “substantial loss”) are qualitative and unquantified, and therefore do not provide a reliable or transparent basis for understanding the scale of impact on distinct fishing fleets.

Mitigation asymmetry (OAA and ECC). There is a clear mitigation imbalance between the Offshore Array Area and the Export Cable Corridor. The Applicant proposes Disruption Agreements and financial mechanisms only for the ECC during construction, yet the EIAR identifies the Significant residual effect in the OAA, where long-term exclusion of towed-gear fleets is expected. This asymmetry is not justified. EIA adequacy requires proportionate and like-for-like remedies where significant, enduring impacts occur. Providing mitigation solely for the ECC, while leaving the acknowledged long-term effects in the OAA unaddressed, fails to meet that requirement and does not constitute a credible mitigation package for affected fisheries.

13. Shipping & Navigation¹²¹

SFF recognises that Chapter 15 and its supporting Navigational Risk Assessment (NRA) provide a detailed AIS-based baseline and align with recognised guidance (MGN 654, COLREGS, IALA/NLB)¹²². However, the chapter’s conclusions of “Broadly Acceptable” or “Tolerable with Mitigation” across almost all hazards depend on assumptions and calculations that are not transparently presented and do not reflect the operational profile of fishing vessels, particularly towed-gear fleets¹²³. As drafted, Chapter 15 under-represents the true navigational and safety implications of a floating offshore wind farm of this scale with extensive moorings, dynamic cables, rock protection and a 12-year phased construction programme. The assessment does not demonstrate tow-path feasibility, stacked safety-zone exclusion, reduced sea room, or SAR/AtoN resilience, all of which are essential for a legally adequate EIA and critical for maintaining safe fishing operations in NE7.

Nearshore pinch-points at Peterhead are understated. The use of a 10 nm buffer masks the actual navigational pressure at the landfall interface where commercial shipping routes and intensive fishing traffic

¹¹⁷ MarramWind Ltd (2025), EIAR Vol.1, Ch.14 Table 14.7 (C2), Table 14.8 (M-029/M-054)

¹¹⁸ MarramWind Ltd (2025), EIAR Vol.1, Ch.14 Table 14.12 (M-220), Table 14.7; Table 14.8 (M-031)

¹¹⁹ MarramWind Ltd (2025), EIAR Vol.1, Ch.14 Table 14.8 (M-029 Cable Plan; M-039 Vessel Plan; M-048 FMMCP; M-051)

¹²⁰ MarramWind Ltd (2025), EIAR Vol.1, Ch.14 Section 14.9.2.45–.46

¹²¹ MarramWind Ltd. Environmental Impact Assessment Report – Volume 1, Chapter 15: Shipping and Navigation, MAR-GEN-PMG-REP-WSP-000041, 852346-WEIS-IA-O1-RP-S6-745251, prepared by Anatec Limited, 8 December 2025

¹²² MarramWind Ltd (2025), EIAR Vol.1, Ch.15 Section 15.2.1 -.2, Table 15.9

¹²³ MarramWind Ltd (2025), EIAR Vol.1, Ch.15 Section 15.9.1.17, Table 15.2, Section 15.9.1.13, Section 15.10.1.5

converge¹²⁴. The EIAR provides no seasonal avoidance windows, no traffic-management measures and no construction sequencing to minimise disruption, an omission that is particularly significant for the busiest fishing port interface in Scotland.

Under-representation of risks to fishing vessels. Across the chapter, navigation impacts on fishing vessels are consistently downplayed by:

- failing to assess tow-path feasibility within or around the array;
- down-rating snagging and interaction hazards on the basis of communications alone;
- modelling deviations only for merchant vessels;
- assuming, rather than demonstrating, internal array navigability; and
- omitting any assessment of cumulative sea-room squeeze for mobile-gear fleets.

Additionally, COLREGS do not mitigate fisheries impacts¹²⁵. They regulate encounter behaviour. They do not create safe towable corridors through an array containing floating units, taut moorings, dynamic cables and seabed obstructions.

14. Infrastructure & Other Marine Users¹²⁶

SFF notes that Chapter 18 does not provide an adequate or legally robust assessment of impacts on commercial fisheries. Fishing vessels are not treated as a receptor, fishing activity is reduced to generic “other users”¹²⁷, and magnitude is down-scored almost entirely through communications-based mitigation. As drafted, Chapter 18 fails to assess the real, spatial, operational and cumulative interactions between fisheries and offshore infrastructure and must be revisited before determination. Although Section 18.1 notes that Chapter 18 should be read in conjunction with Chapter 4 (Project Description) and Chapter 14 (Commercial Fisheries), this cross-reference does not remedy the structural omission, as Chapter 18 itself does not assess fisheries as a receptor nor integrate the spatial or operational constraints identified elsewhere in the EIAR.

Fishing is not assessed as a receptor. Fishing does not appear anywhere in Table 18.2 (Identified Receptors), the baseline (Section 18.6), or the effects pathways (Section 18.9–18.11). The chapter instead assumes all marine users behave like point-to-point transit vessels, reducing all interactions to “temporary obstruction”, “presence of vessels” or “route adjustment”¹²⁸. This is a fundamental methodological error for a project with extensive floating infrastructure, moorings, protection and long-duration construction.

Over-reliance on communications-based mitigation. Embedded mitigation¹²⁹ consists almost entirely of:

- Notices to Mariners / Kingfisher (M-030, M-039),
- Safety zones (M-031),
- Lighting/marking (M-038),
- Marine coordination / VMPs (M-039).

These do not remove snag risk, reduce mooring spread, reinstate towable seabed, or minimise spatial squeeze. Nevertheless, Chapter 18 repeatedly assigns Very Low magnitude on the basis that communications will “minimise disturbance”. This is not evidence-based for fishing operations.

No assessment of fisheries displacement or spatial squeeze. Despite clear spatial conflicts in the nearshore export cable corridor including overlap with four dredge disposal sites and proximity to high-effort fishing grounds Chapter 18 provides no fisheries displacement analysis and no assessment of trawl/static gear

¹²⁴ MarramWind Ltd (2025), EIAR Vol.1, Ch.15 Section 15.4.2.1, Section 15.6.1.27–15.6.1.30, 15.9.3.5, 15.6.2.1 and Peterhead’s consultation response

¹²⁵ MarramWind Ltd (2025), EIAR Vol.1, Ch.15 Section 15.2.1.3; 15.9.1.18; 15.9.1.22–15.9.1.23; 15.9.2.7; 15.10.1.8; 15.10.1.11

¹²⁶ MarramWind Ltd. Environmental Impact Assessment Report – Volume 1, Chapter 18: Infrastructure and Other Marine Users, MAR-GEN-ENV-REP-WSP-000026, 852346-WEIS-IA-O1-RP-I6-194858, prepared by WSP UK Limited, 8 December 2025

¹²⁷ MarramWind Ltd (2025), EIAR Vol.1, Ch.18 Section 18.1.1.1

¹²⁸ MarramWind Ltd (2025), EIAR Vol.1, Ch.18 Table 18.3, Section 18.9.2.7, 18.9.3.9, 18.10.2.2

¹²⁹ MarramWind Ltd (2025), EIAR Vol.1, Ch.18 Table 18.10

interactions. The chapter evaluates obstruction to disposal-site operations but not to the fishing fleets that rely on these dredged channels for safe port access.

No cumulative assessment for fisheries. Although EIAR defers cumulative effects to Chapter 33¹³⁰, Chapter 18 does not identify a fisheries receptor or pass any fisheries-specific constraints into the cumulative pathway. The corridor contains multiple operational/planned cables (Hywind, EGL2/3, NorthConnect, INTOG/ScotWind routes)¹³¹ yet cumulative no-trawl zones, multiple protection footprints and combined safety-zone exclusion are not assessed from a fisheries perspective.

15. Greenhouse Gases (GHG)¹³²

Chapter 29 discloses a far larger and more intrusive offshore activity footprint with very large rock protection volumes and frequent cable repair/replacement interventions¹³³. These activity levels materially exceed the effort described or assessed in the Commercial Fisheries (Chapter 14), Shipping and Navigation (Chapter 15), yet their interaction and safety implications are not evaluated elsewhere. The GHG inventory therefore exposes cross-chapter inconsistencies that undermine the EIAR's adequacy. In parallel, rock protection volumes and cable repair assumptions in Chapter 29 contradict the reassuring stability/burial narratives used to down-rate snag and displacement risk in other topics.

15. Socio-Economics¹³⁴

SFF recognises that Chapter 30 is well-executed on descriptive baseline and well-structured methodological framework. However, it falls short on adequacy where it matters for fishing-dependent coastal economies (Peterhead, Fraserburgh). It quantifies benefits robustly¹³⁵ but does not quantify plausible adverse socio-economic pathways for fleets, processors, ancillary businesses or port communities (Peterhead, Fraserburgh). It also under develops cumulative build-out pressures, distributional impacts, labour market competition/cost inflation and the port interface with marine spatial constraints.

Chapter 30 provides a benefits-led narrative but does not provide a decision-ready assessment of adverse pathways for the North-East's fishing-dependent communities. Commercial fisheries are listed as a socio-economic receptor¹³⁶, yet there is no monetised fleet-level assessment, no landings analysis, no processor impacts and no modelling of displacement-related costs or behavioural change. The chapter relies heavily on a single "Commit Scenario"¹³⁷ with no downside sensitivities and presents embedded measures (e.g., Fisheries Fund M-219) that expressly exclude direct compensation for losses¹³⁸.

16. Inter-Related Effects¹³⁹

Chapter 32 does not provide an adequate inter-related effects (IRE) assessment for a major floating offshore wind project. It relies on repeating standalone chapter conclusions, assumes independence between clearly overlapping effects and dismisses interactions without analysis. The document presents "No Significant effects" across almost all topics despite clear spatio and multi-pathway pressures for commercial fisheries, shipping and navigation, socio-economics. In particular, Chapter 14 identifies Moderate Adverse (Significant) effects for demersal otter trawl within the OAA, yet Chapter 32 concludes no significant inter-related effects

¹³⁰ MarramWind Ltd (2025), EIAR Vol.1, Ch.18 Section 18.15

¹³¹ MarramWind Ltd (2025), EIAR Vol.1, Ch.18 Table 18.6, Table 18.8

¹³² MarramWind Ltd. Environmental Impact Assessment Report – Volume 1, Chapter 29: Greenhouse Gases, MAR-GEN-ENV-REP-WSP-000030, 852346-WEIS-IA-O1-RP-G3-695900, prepared by WSP UK Limited, 8 December 2025

¹³³ MarramWind Ltd (2025), EIAR Vol.1, Ch.29 Table 29.9, Table 29.10, Section 29.8.1.21; 29.8.1.40–41

¹³⁴ MarramWind Ltd. Environmental Impact Assessment Report – Volume 1, Chapter 30: Socio-Economics, MAR-GEN-ENV-REP-WSP-000034, 852346-WEIS-IA-O1-RP-S1-523744, prepared by WSP UK Limited, 8 December 2025

¹³⁵ MarramWind Ltd (2025), EIAR Vol.1, Ch.30 Section 1.8.3.15–1.8.3.20; 1.9.6, Table 30.14, Table 30.21; Table 30.23

¹³⁶ MarramWind Ltd (2025), EIAR Vol.1, Ch.30 Section 1.1.1.1

¹³⁷ MarramWind Ltd (2025), EIAR Vol.1, Ch.30 Table 1.15, Section 1.8.3.15

¹³⁸ MarramWind Ltd (2025), EIAR Vol.1, Ch.30 Table 1.16 — Embedded Measure M-219

¹³⁹ MarramWind Ltd. Environmental Impact Assessment Report – Volume 1, Chapter 32: Inter-Related Effects, MAR-GEN-ENV-REP-WSP-000038, 852346-WEIS-IA-O1-RP-I5-896411, prepared by WSP UK Limited, 8 December 2025

for fisheries¹⁴⁰, relying on an unsupported assumption that displacement will “dissipate as fishers adapt” with no analysis of gear conflict, fuel and time costs, adjacent-ground pressure or long-term O&M exclusion.

17. Cumulative Effects Assessment (CEA)¹⁴¹

Chapter 33 presents a broadly compliant cumulative effects framework and documents regulator engagement, including agreement with MD-LOT on a six-month cumulative cut-off¹⁴². The chapter stops at screening narrative and then defaults to “Not Significant” conclusion without transparent combination logic¹⁴³. As a result, the CEA framework appears complete on paper, but the analysis does not evidence how cumulative effects were actually combined or why significance was ruled out.

18. Habitats Regulations Assessment (HRA) – compensation framing.

The Derogation Case indicates that, if required, Ministers may consider compensatory measures under the Habitats Regulations where no alternative solutions exist and Imperative Reasons of Overriding Public Interest (IROPI) are demonstrated. The Applicant’s material refers to a range of “strategic” measures (e.g., predator control and biosecurity; habitat management/restoration; reduction of disturbance at colonies; and “fisheries management compensatory measures”), with further detail signposted to the HRA Compensation Plan appendix. SFF notes these submissions but records that HRA compensation is relevant to maintaining the coherence of the National (and UK) Site Network and does not address commercial-fisheries displacement or operational safety; reliance on post-consent development of compensatory measures cannot remedy EIA-stage adequacy gaps; and the term “fisheries management compensatory measures” is undefined in relation to the OAA/ECC footprint and must not be misconstrued as mitigation for loss of access, snag risk, or long-term operational exclusion. The Applicant’s derogation narrative and shortlist of compensation types are referenced in the Derogation Case and the HRA Compensation Plan appendix. However, these materials do not alter SFF’s EIA adequacy concerns for commercial fisheries.

19. Fisheries Mitigation, Monitoring and Communication Plan (FMMCP)¹⁴⁴

Reliance on FLOWW despite SFF withdrawal. The Outline FMMCP explicitly lists the FLOWW Best Practice Guidance (2014, 2015, 2025) as core guidance for liaison, disruption settlements and communication protocols¹⁴⁵. The document also acknowledges that SFF and Scottish fishing associations have been formally engaged in consultations¹⁴⁶. Given SFF’s stated withdrawal from FLOWW processes, the FMMCP’s heavy reliance on FLOWW guidance even elevating it above Scottish Government guidance is not acceptable and is not aligned with Scottish policy. FLOWW carries no statutory weight and regulators cannot treat adherence to FLOWW as evidence that impacts are “mitigated so far as practicable.” Because the FMMCP is embedded in s.36 licence conditions through M-048¹⁴⁷, over-reliance on FLOWW undermines the robustness of mitigation.

Unresolved design envelope - hybrid fixed/floating risks not addressed. Although MarramWind is a floating turbine project, Chapter 4 confirms that the offshore substations may be fixed-foundation structures (e.g. jacket or monopile options). The FMMCP does not commit to a final foundation type and instead states the Project “may include... floating units (platforms and station keeping system)”¹⁴⁸. The FMMCP does not explain

¹⁴⁰ MarramWind Ltd (2025), EIAR Vol.1, Ch.32 Table 32.8

¹⁴¹ MarramWind Ltd. Environmental Impact Assessment Report – Volume 1, Chapter 33: MAR-GEN-ENV-REP-WSP-000040, 852346-WEIS-IA-O1-RP-C2-94337, prepared by WSP UK Limited, 8 December 2025

¹⁴² MarramWind Ltd (2025), EIAR Vol.1, Ch.33 Section 33.4.1.8; Stakeholder Issue ID 908, 909

¹⁴³ MarramWind Ltd (2025), EIAR Vol.1, Ch.33 Tables 33.9, 33.10, 33.13, 33.14, 33.15 and 33.26

¹⁴⁴ MarramWind Ltd. Environmental Impact Assessment Report – Volume 4: Outline Fisheries Mitigation, Monitoring and Communication Plan (FMMCP), MAR-GEN-ENV-REP-SCW-000005, 3890043, prepared by Brown and May Marine Limited, 8 December 2025

¹⁴⁵ MarramWind Ltd (2025), EIAR Vol.4, Outline FMMCP Section 1.4.1.1

¹⁴⁶ MarramWind Ltd (2025), EIAR Vol.4, Outline FMMCP Section 3; Table 3.1

¹⁴⁷ MarramWind Ltd (2025), EIAR Vol.4, Outline FMMCP Table 5.1

¹⁴⁸ MarramWind Ltd (2025), EIAR Vol.4, Outline FMMCP Section 1.2.1.5

how fisheries mitigation, coexistence assumptions, disruption agreements or OFLO procedures would differ between:

- floating WTGs (mooring spreads, dynamic cables, anchor patterns)
- fixed foundation offshore substations (fixed footprints, different snagging profiles)

Since the EIA identifies Moderate Adverse (Significant) long-term exclusion from the OAA for demersal otter trawl¹⁴⁹, the Plan must show clearly how mitigation differs depending on the final design. Deferring clarity to the DSLP is procedurally inadequate for consent determination.

Disruption Agreements limited to the Cable Corridor only. The FMMCP restricts disruption agreements to the export cable corridor only¹⁵⁰. While the FMMCP limits Disruption Agreements to those fleets the EIAR deems to experience a “significant” effect within the export cable corridor, this approach is itself problematic, as it excludes fleets with clear operational impacts that fall below the EIAR’s significance threshold. This is inconsistent with the FMMCP’s own admission that loss of access for otter trawl within the OAA is Moderate Adverse (Significant) and persists through construction, operation and decommissioning¹⁵¹. If the Project acknowledges significant residual effects for mobile gears inside the OAA, the Plan must either include OAA-area disruption agreements or justify why these effects are not compensable. The current drafting is internally contradictory.

Fisheries Fund not aligned with 30–35 year displacement. The Fisheries Fund (M-219) operates during construction and only the first five years of operation¹⁵². Yet the FMMCP acknowledges 12 years of construction, followed by 35 years of operation per phase¹⁵³ and identifies long-term exclusion for otter trawl for that entire duration¹⁵⁴. A 5-year fund cannot mitigate multi-decade displacement. Moreover, the Fund does not compensate individual businesses but funds “research, gear innovation, adaptation, resilience”¹⁵⁵ none of which constitute mitigation for actual fishing-space loss. Requiring fishing fleets to modify gears or practices to accommodate the project’s footprint is not an appropriate or proportionate mitigation measure, as it shifts the burden of impact from the developer to the affected industry. MD-LOT cannot treat broad industry support initiatives as mitigation for direct exclusion.

Coexistence claims unsupported and deferred. Coexistence is repeatedly positioned as a central objective¹⁵⁶. However, M-221 merely commits to “explore” coexistence opportunities within the OAA¹⁵⁷. No description is provided of actual feasible coexistence zones, fishing corridors, or gear-type-specific operational protocols. Given floating wind’s mooring patterns and safety zones, coexistence for trawl/seine/dredge fleets is generally not realistically achievable. Promising to “explore” options is not mitigation and provides no certainty to regulators. The proposed “Access Corridor” cannot be treated as a coexistence measure, as its routing follows the Golden Eagle–Claymore pipeline for protection purposes rather than to facilitate fishing access, and the EIAR itself acknowledges uncertainty as to whether mobile gears could operate within it.

Access corridor (M-220) is not a fishable area. The FMMCP claims to provide an “access corridor” of ~29 km² along the Golden Eagle–Claymore pipeline¹⁵⁸. While M-220 commits to no above-seabed infrastructure within the pipeline and its 500 m buffer (i.e. no WTG floating units, moorings, anchors or dynamic cables), the commitment also explicitly states that array cables and pipeline crossings may still occur within the corridor¹⁵⁹. No trawl-safe verification, snagging risk assessment, or over-trawl commitment is provided. The

¹⁴⁹ MarramWind Ltd (2025), EIAR Vol.4, Outline FMMCP Section 5.1.2.1

¹⁵⁰ MarramWind Ltd (2025), EIAR Vol.4, Outline FMMCP M-218; Section 5.2.2.11–5.2.2.14

¹⁵¹ MarramWind Ltd (2025), EIAR Vol.4, Outline FMMCP Section 5.1.2.1

¹⁵² MarramWind Ltd (2025), EIAR Vol.4, Outline FMMCP Section 5.2.2.2

¹⁵³ MarramWind Ltd (2025), EIAR Vol.4, Outline FMMCP Section 1.2.1.3

¹⁵⁴ MarramWind Ltd (2025), EIAR Vol.4, Outline FMMCP Section 5.1.2.1

¹⁵⁵ MarramWind Ltd (2025), EIAR Vol.4, Outline FMMCP Section 5.2.2.3

¹⁵⁶ MarramWind Ltd (2025), EIAR Vol.4, Outline FMMCP Section 4.1.1.1, Section 5.1.2.4

¹⁵⁷ MarramWind Ltd (2025), EIAR Vol.4, Outline FMMCP Section 5.2.2.7–5.2.2.8

¹⁵⁸ MarramWind Ltd (2025), EIAR Vol.4, Outline FMMCP Section 5.2.2.5

¹⁵⁹ MarramWind Ltd (2025), EIAR Vol.4, Outline FMMCP Section 5.2.2.6

corridor represents only 4% of the OAA. Without proof that the corridor is free of moorings, suspended lines, dynamic cables or cable protection, it cannot be considered an operational fishing area

OFLO placement on guard vessels contradicts best practice. The Plan states OFLOs “may be required onboard... vessels” and guard vessels will be used “where appropriate”¹⁶⁰. This allows OFLOs to be sited on guard vessels rather than the working vessel, contrary to accepted liaison practice where FLO/OFLO presence is required on the working vessel to ensure effective real-time communication, hazard observation and operational risk management¹⁶¹. Effective monitoring requires OFLOs on construction/survey vessels, not vessels observing them.

Mitigation in Section 5 is generic, not fishery-specific. Impacts differ profoundly between gear types (otter trawl, seine, dredge, pots). Yet the mitigation measures in Sections 5.1–5.2 apply uniformly to all fleets and do not address:

- trawl-specific snagging risks near moorings
- seine warp-length interaction with floating arrays
- dredge interaction with cable protection
- static-gear conflict with construction spreads

This requires clear, gear-specific mitigation, not generic statements.

Burial-first hierarchy missing. Although cable burial and CBRA are noted in M-029 and M-054¹⁶², the Plan does not commit to

- burial-first hierarchy
- avoiding mattresses, grout bags
- providing pre-installation route data
- over-trawl verification before declaring areas “fishable”

These are essential to minimise snagging risk.

Dropped object procedures omit fishing risk. Section 4.2.5.1–4.2.5.2 reproduces KIS-ORCA procedures but focuses on navigation, not:

- snagging hazards
- gear loss
- long-term seabed obstacles
- notification protocols for fishing gear safety

Fishing-specific risk information is absent. While M-050 notes that dropped objects will be reported and recovered “where they pose a hazard to other marine users”, this is a generic navigation-led commitment and does not provide the fishing-specific protocols required to address snagging risk, trawl interaction, or long-term seabed obstruction relevant to commercial fishing activity.

Monitoring is short, limited, and not connected to mitigation. The monitoring programme¹⁶³

- does not cover 35-year O&M period,
- does not include stock monitoring if piling occurs,
- is not linked to mitigation triggers or adaptive management rules.

This is not compliant with Scottish Government (2025) good-practice guidance.

Guard-vessel commitments vague. Guard vessels are deployed “where appropriate”¹⁶⁴, with no commitment to:

¹⁶⁰ MarramWind Ltd (2025), EIAR Vol.4, Outline FMMCP Section 4.2.3.1

¹⁶¹ Offshore Energies UK (OEUK), Guidelines for Liaison with the Fishing Industry on the UKCS – Issue 8 (2023), Sections 2.1–2.3

¹⁶² MarramWind Ltd (2025), EIAR Vol.4, Outline FMMCP Table 5.1

¹⁶³ MarramWind Ltd (2025), EIAR Vol.4, Outline FMMCP M-222; Sections 5.2.2.9–5.2.2.10)

¹⁶⁴ MarramWind Ltd (2025), EIAR Vol.4, Outline FMMCP Section 4.2.3.1

- 24/7 coverage at key risk times
- proportionate guard-vessel numbers
- communication protocols
- minimum competence standards

Given the scale of exclusion and multi-decade duration, more robust commitments are required.

SFF does not consider the FMMCP, in its current form to provide evidence that project impacts on fisheries have been mitigated “so far as reasonably practicable” in accordance with the EIA Regulations.

SFF also considers it important to highlight, at this early stage, the need for robust, ring-fenced and inflation-linked financial securities for decommissioning. Recent offshore wind experience elsewhere in the UK has demonstrated that decommissioning liabilities can be underestimated, particularly for early-generation projects and for floating infrastructure where removal costs are likely to be significantly higher than for fixed-bottom foundations including the potential need to remediate scour pits and seabed depressions caused by mooring systems. Although full Decommissioning Programmes are submitted post-consent under the Energy Act 2004, the EIA stage provides an appropriate opportunity to signal the sector-wide need for stronger financial safeguards. Given MD-LOT’s existing powers to require financial guarantees under both the Marine (Scotland) Act 2010 and the Energy Act 2004, SFF considers that clear, adequately secured and inflation-tracked financial provisions should be expected at consent stage to ensure that full removal obligations are realistically deliverable and that future liabilities are not transferred to the public.

The Scottish Fishermen’s Federation exists to safeguard the health of the marine environment and the livelihoods of fishing communities. In relation to this application, our concerns are evidence-led and grounded in the EIA/ML process. The documentation does not demonstrate that significant, long-term impacts on commercial fisheries have been avoided, minimised or credibly mitigated, nor does it secure enforceable design limits or proportionate remedies. Accordingly, SFF maintains a formal objection to the application as submitted.

For and on behalf of the Scottish Fishermen's Federation

[Redacted]

Oliwia Biros
Offshore Consents Assessments Manager
Scottish Fishermen’s Federation

Scottish and Southern Electricity Networks

Scottish Hydro Electric Transmission Plc.
Prime View, Prime Four Business Park
Kingswells Causeway
Aberdeen
AB15 8NY

The Scottish Government
Marine Directorate Licensing and Operations Team
Marine Laboratory
Aberdeen
AB11 9DB

Submitted via email: MD.MarineRenewables@gov.scot

13 March 2026

Dear Marine Directorate, Licensing and Operations Team,

REF: 00011544, 00011545, 00011546 & 00011547 - MarramWind Ltd – MarramWind Offshore Wind Farm – EIA Section 36 consent and Marine Licence Applications

Thank-you for the opportunity to provide comment on the MarramWind Offshore Wind EIA Section 36 consent and Marine Licence.

As the owner of the electricity transmission network in the North of Scotland, Scottish Hydro Electric Transmission plc (trading as Scottish and Southern Electricity Networks (SSEN) Transmission) we are currently progressing over £22bn of investment across our network area both onshore and offshore, enabling the connection of the renewable energy needed to meet Scottish and UK Government 2030 energy targets and beyond: providing greater home-grown energy security and supporting Scotland and the UK's pathway to Net Zero.

SSEN Transmission appreciates the inclusion and consideration of the Eastern Green Link 3 and Spittal to Peterhead projects throughout the assessments. We believe that Eastern Green Link 5 should also be referenced, as the project is currently in the planning phase and may have overlapping landfall interests at Scotstown Beach. We acknowledge that MarramWind Ltd has retained a high degree of flexibility in its landfall options, with two broad areas identified at Scotstown and Lunderton that will be further refined as the project develops. Given the number of developers—including Eastern Green Link 5—currently considering landfall at Scotstown Beach South (Lunderton), we would like to seek greater clarity on the indicative landfall location for the MarramWind project which will be important as planning progresses. From the Eastern Green Link 5 perspective, we would welcome consideration being given to a preference by MarramWind Ltd for the most northerly Scotstown Beach North landfall option. The Eastern Green Link 5 project team has been and will continue to engage regularly and constructively with MarramWind Ltd, and we remain committed to maintaining close collaboration throughout the planning and installation phases of

both projects. Please see the most recent information available for these projects at the following links [Eastern Green Link 3 - SSEN Transmission](#), [Eastern Green Link 5 - SSEN Transmission](#) and [Spittal to Peterhead Subsea Cable Link - SSEN Transmission](#). We continue to encourage regular engagement between the MarramWind Ltd and SSEN Transmission with respect to the project and export cable corridors and requirements for proximity and/or crossing agreements as per the International Cable Protection Committee and the European Subsea Cables Association guidelines.

It should also be noted that as providers of critical national infrastructure there is the potential for future projects beyond 2030 to be located within and adjacent to the MarramWind offshore windfarm and transmission corridor, therefore presenting the potential for future interactions.

We remain committed to working with other legitimate users of the sea in a proactive manner, enabling all parties to deliver successful projects wherever reasonably possible. This is especially important where crossing agreements are to be developed, giving due consideration and provision for present and future cables to cross both export and generation sites, maintaining the freedom of the seas for both telecommunications and power cables. We reiterate and encourage regular and proactive engagement as the MarramWind Offshore Wind Farm progresses.

Lastly we highlight and suggest the use of our 'Project map' [Project Map - SSEN Transmission](#) as this will provide the most up to date information regarding any developing SSEN Transmission projects.

I am happy to discuss further the comments above should there be any follow-on questions or concerns.

Yours sincerely

Erin Wilson

Assistant Marine Consents Manager

[Redacted]

Scottish Water

Thursday, 22 January 2026



Marine Licensing
375 Victoria Road

Aberdeen

Development Operations
The Bridge
Buchanan Gate Business Park
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Glasgow
G33 6FB

Development Operations
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Dear Customer,

**Marram Wind Offshore Wind Farm, 75 and 110 KM off the NE coast of,
Scotland
Planning Ref: SCOP-0020
Our Ref: DSCAS-0147879-LZF
Proposal: MarramWind Offshore Wind Farm**

Please quote our reference in all future correspondence

Audit of Proposal

Scottish Water has no objection to this proposal. Please read the following carefully as there may be further action required. Scottish Water would advise the following:

Drinking Water Protected Areas

A review of our records indicates that there are no Scottish Water drinking water catchments or water abstraction sources, which are designated as Drinking Water Protected Areas under the Water Framework Directive, in the area that may be affected by the proposed activity.

Surface Water

For reasons of sustainability and to protect our customers from potential future sewer flooding, Scottish Water will not accept any surface water connections into our combined sewer system.

There may be limited exceptional circumstances where we would allow such a connection for brownfield sites only, however this will require significant justification from the customer taking account of various factors including legal, physical, and technical challenges.

In order to avoid costs and delays where a surface water discharge to our combined sewer system is anticipated, the developer should refer to our guides which can be found at

<https://www.scottishwater.co.uk/Help-and-Resources/Document-Hub/Business-and-Developers/Connecting-to-Our-Network> which detail our policy and processes to support the application process, evidence to support the intended drainage plan should be submitted at the technical application stage where we will assess this evidence in a robust manner and provide a decision that reflects the best option from environmental and customer perspectives.

Next Steps:

All developments that propose a connection to the public water or waste water infrastructure are required to submit a Pre-Development Enquiry (PDE) Form via our Customer Portal prior to any formal technical application being submitted, allowing us to fully appraise the proposals

I trust the above is acceptable however if you require any further information regarding this matter please contact me on **0800 389 0379** or via the e-mail address below or at planningconsultations@scottishwater.co.uk.

Yours sincerely,

Ruth Kerr

Development Services Analyst

PlanningConsultations@scottishwater.co.uk

Scottish Water Disclaimer:

"It is important to note that the information on any such plan provided on Scottish Water's infrastructure, is for indicative purposes only and its accuracy cannot be relied upon. When the exact location and the nature of the infrastructure on the plan is a material requirement then you should undertake an appropriate site investigation to confirm its actual position in the ground and to determine if it is suitable for its intended purpose. By using the plan you agree that Scottish Water will not be liable for any loss, damage or costs caused by relying upon it or from carrying out any such site investigation."

Supplementary Guidance

- Scottish Water asset plans can be obtained from our appointed asset plan providers:
 - Site Investigation Services (UK) Ltd
 - Tel: 0333 123 1223
 - Email: sw@sisplan.co.uk
 - www.sisplan.co.uk
- Scottish Water's current minimum level of service for water pressure is 1.0 bar or 10m head at the customer's boundary internal outlet. Any property which cannot be adequately serviced from the available pressure may require private pumping arrangements to be installed, subject to compliance with Water Byelaws. If the developer wishes to enquire about Scottish Water's procedure for

checking the water pressure in the area, then they should write to the Development Operations department at the above address.

- If a connection to the public sewer and/or water main requires to be laid through land out-with public ownership, the developer must provide evidence of formal approval from the affected landowner(s) by way of a deed of servitude.
- Scottish Water may only vest new water or waste water infrastructure which is to be laid through land out with public ownership where a Deed of Servitude has been obtained in our favour by the developer.
- The developer should also be aware that Scottish Water requires land title to the area of land where a pumping station and/or a Sustainable Drainage System (SUDS) proposed to vest in Scottish Water is constructed.
- Please find information on how to submit application to Scottish Water at our Customer Portal.

Transport Scotland

Jennifer Goodheir
Marine Directorate - Licencing Operations Team (MD - LOT)
Scottish Government
5 Atlantic Quay
150 Broomielaw
Glasgow
G2 8LU

MD.MarineRenewables@gov.scot

Your ref:
00011544,
00011545,
00011546 &
00011547

Our ref:
GB01T19K05

Date:
11/02/2026

Dear Sirs,

ELECTRICITY ACT 1989

THE ELECTRICITY WORKS (ENVIRONMENTAL IMPACT ASSESSMENT) (SCOTLAND) REGULATIONS 2017

THE ELECTRICITY (APPLICATIONS FOR CONSENT) REGULATIONS 1990

MARINE (SCOTLAND) ACT 2010

MARINE AND COASTAL ACCESS ACT 2009

With reference to your recent correspondence on the above development, we acknowledge receipt of the Environmental Impact Assessment Report (EIAR) prepared by WSP UK Limited in support of the above development.

This information has been passed to SYSTRA Limited for review in their capacity as Term Consultants to Transport Scotland – Roads Delivery & Operations Directorate. Based on the review undertaken, Transport Scotland would provide the following comments.

Proposed Development

The proposed Offshore development comprises “in the region of” 126 to 225 turbines with a tip height of between 142 and 182m, to be located 75km to 110km off the North-East coast of Scotland. The Onshore elements relate to the onshore electricity grid connection infrastructure, landward of MLWS. The EIAR states that the key components are:

- Landfall(s) – the infrastructure associated with landfall(s) located above MLWS;
- Underground onshore export cables running from the landfall(s) to the onshore substations;
- Onshore substations co-located on one site;
- Underground grid connection cables (connecting the onshore substations to the grid connection point at SSEN Netherton Hub); and
- Tie-in to the grid connection point (SSEN substation at the Netherton Hub, which is a separate project and does not form part of the current consenting applications.

The EIAR indicates there are three proposed landfall locations - Scotstown Landfall, Lunderton North Landfall and Lunderton South Landfall. All three will result in a need to cross the A90(T).

Assessment of Environmental Impacts

Chapter 26 of the EIAR presents the assessment of Traffic and Transport. This states that the assessment has been carried out in accordance with the Institute of Environmental Management and Assessment (IEMA) (now Institute of Sustainability and Environmental Professionals (ISEP)) Guidelines, entitled Environmental Assessment of Traffic and Movement (July 2023).

These specify that road links should be taken forward for further assessment where the following two rules are breached:

- Rule 1: Include road links where traffic flows will increase by more than 30% (or the number of heavy goods vehicles will increase by more than 30%)
- Rule 2: Include road links of high sensitivity where traffic flows have increased by 10% or more.

Chapter 26 states that all construction traffic will use the A90(T) to access the landfall areas, onshore substations and onshore export cable construction working areas, therefore, the study area includes the A90(T), A950 and various 'B' and 'C' roads in the area. Transport Scotland considers this appropriate.

We note that construction of the Project is anticipated to commence in 2030, with the first phase becoming fully operational by 2037. The second phase of the Project would become fully operational by 2040 and the third phase by 2043. The peak year of construction of onshore infrastructure is anticipated to be in the second year, i.e. 2031.

It is also noted that due to the rural nature of the project, the Applicant considers it highly unlikely that construction traffic will have a significant effect on the surrounding local road network with respect to traffic flows both in isolation and cumulatively. It is, therefore, considered that detailed junction capacity assessments are not required and have subsequently not been carried out. Transport Scotland concurs with this approach.

Chapter 26 states that base traffic has been obtained using a combination of 2023 ATC survey data and targeted site surveys where existing data was incomplete or outdated. Data for the A90(T) has been obtained at 4 locations, with 3 DfT sites and one Traffic Scotland counter being utilised. The resulting Existing Annual Average Daily (AADT) two-way traffic flows are presented in Table 26.6, with the 12-hour Annual Average Daily two-way Traffic Flows being presented in Table 26.7.

To assess the construction stage impact, future baseline traffic (2031) has been determined by applying TEMPro growth factors to the existing traffic flows. The resulting 2031 base traffic flows are presented in Table 26.10.

The total peak construction traffic associated with onshore infrastructure delivery is presented in Table 26.14, where it can be seen that there will be 297 daily LCVs and 245 HGVs on three of the A90(T) locations, with the fourth location experiencing 0 LCVs and 331 HGVs.

Table 26.22 presents the results of the Construction Traffic Impact Summary. This demonstrates that at all four A90(T) receptors, the percentage increase in HGV traffic will exceed the 30% threshold as indicated within the IEMA (ISEP) Guidelines, indicating that all four locations require further assessment. A Road Capacity Assessment has been provided which demonstrates that the four trunk road locations have ample spare capacity, with the lowest result being 78%. Transport Scotland is, therefore, satisfied that the increase in traffic at these locations would not result in noticeable change on road capacity.

As per the IEMA (ISEP) Guidelines, a further assessment of Severance, Road vehicle driver and passenger delay, Non-Motorised User delay and amenity, Fear and intimidation, and Road user and pedestrian safety has been carried out. The assessment indicates that there will be embedded environmental measures, designed to mitigate the impact of construction related traffic. In addition, an Outline Construction Traffic Management Plan has been produced, also designed to mitigate any impacts. The results of the assessment are summarised in Table 26.27, where it is demonstrated that the residual impacts will be either “Minor adverse and Not Significant” or “Negligible and Not Significant”. Transport Scotland is, therefore, satisfied that with the implementation of a CTMP, the impact of the construction related traffic can be appropriately managed.

We would, however, state that with regard to any proposed crossing of the A90(T), any proposed changes to the trunk road network must be discussed and approved (via a technical approval process) by the Area Manager for the A90(T) who is Paul Anderson who can be contacted at

[Redacted]

Abnormal Loads Assessment

An Abnormal Load Route Assessment (ALRA) has been prepared and is included within Volume 3, Appendix 26.2. This indicates that construction of the project will generate abnormal load movements primarily related to the transportation of cable drums, transformers and HDD (or similar trenchless technique) rigs. The largest component will be the transformers, and there will be multiple transformers required at the onshore substations.

We note that while the origin of the AL deliveries is unknown, it is anticipated that these would be delivered along the trunk road network via the most suitable route. It has been assumed that all ALs, except for the transformer, will route from the A90(T) south of Peterhead to the access points, with the transformer assumed to be delivered by sea to the South Base port in Peterhead to the onshore substation via the trunk road network.

This proposed approach results in the HDD rigs and cable drums will require to cross Inverugie Bridge, located along the A90(T) northwest of Peterhead. This bridge has a stated weight restriction and the ALRA indicates that this is likely to require reinforcement works prior to any AL deliveries. We would again state that any proposed changes to the trunk road network must be discussed and approved (via a technical approval process) by the Area Manager and we would encourage early dialogue with Paul Anderson to discuss this matter.

Swept Path Analysis has been undertaken along the AL delivery routes and this has been utilised to identify any Points of Interest (POIs).

The results of this assessment are presented in Table 5.2 - Abnormal load assessment summary where it is demonstrated that there are trunk road locations where multiple over-sail areas will be required, as well as junction widening. Any such amendments will require to be agreed with Paul Anderson.

Conclusions

Based on the review undertaken, we can confirm that we are satisfied with the submitted EIAR and we have no objection to the development in terms of environmental impacts on the trunk road network. We would, however, request that the following conditions be attached to any consent that may be granted:

- Condition 1: Prior to commencement of abnormal deliveries to site, the proposed route for any abnormal loads on the trunk road network must be submitted to and approved by the Planning Authority, in consultation with Transport Scotland as the trunk roads authority.

Reason: To minimise interference and maintain the safety and free flow of traffic on the Trunk Road as a result of the traffic moving to and from the development.

- Condition 2: Prior to the movement of any abnormal load, any accommodation measures required on the trunk road network, including the removal of street furniture, junction widening and traffic management must be approved and implemented to the satisfaction of the Planning Authority, in consultation with Transport Scotland.

Reason: To minimise interference and maintain the safety and free flow of traffic on the Trunk Road as a result of the traffic moving to and from the development.

- Condition 3: Prior to the movement of any components and/or construction materials, any additional signing or temporary traffic control measures deemed necessary on the trunk road network due to the size or length of any loads being transported must be undertaken by a recognised QA traffic management consultant, to be approved by Transport Scotland.

Reason: To ensure that the transportation of any components/materials will not have any detrimental effect on the road and structures along the route.

- Condition 4: Prior to commencement of the development, a Construction Traffic Management Plan (CTMP) shall be submitted to, and approved by, the Planning Authority, after consultation with Transport Scotland. Thereafter, all construction traffic associated with the development shall conform to the requirements of the agreed Plan.

Reason: To mitigate the adverse impact of construction traffic on the safe and efficient operation of the trunk road network.

In addition to the above Conditions, the applicant should be informed of the following advisory notes setting out requirements relating to works within the trunk road boundary:

- I. The applicant should be informed that the granting of planning consent does not carry with it the right to carry out works within the trunk road boundary and that permission must be granted by Transport Scotland Roads Directorate.

- II. Trunk road modification works shall, in all respects, comply with the Design Manual for Roads and Bridges and the Specification for Highway Works published by HMSO. The developer shall issue a certificate to that effect, signed by the design organisation.
- III. Trunk road modifications shall, in all respects, be designed and constructed to arrangements that comply with the Disability Discrimination Act: Good Practice Guide for Roads published by Transport Scotland. The developer shall provide written confirmation of this, signed by the design organisation.
- IV. The road works which are required due to the above Conditions will require a Road Safety Audit as specified by the Design Manual for Roads and Bridges.
- V. Any trunk road works will necessitate a Minute of Agreement with the Trunk Roads Authority prior to commencement.
- VI. To obtain permission to work within the trunk road boundary the developer should contact the Area Manager through the general contact number 0141 272 7100.
- VII. The Operating Company has responsibility for co-ordination and supervision of works and after permission has been granted it is the developer's contractor's responsibility to liaise with the Operating Company during the construction period to ensure all necessary permissions are obtained.

I trust that the above is satisfactory but should you wish to discuss any issues raised in greater detail, please do not hesitate to contact me or alternatively, Alan DeVenny at SYSTRA's Glasgow Office can assist on 0141 343 9636.

Yours faithfully

[Redacted]

Iain Clement

**Transport Scotland
Roads Delivery and Operations**

Alan DeVenny – SYSTRA Ltd.

UK Chamber of Shipping
("UKCoS")

From: [Redacted]
To: [MD Marine Renewables](#)
Cc: [Redacted]
Subject: RE: 00011544, 00011545, 00011546 & 00011547 - MarramWind Ltd – MarramWind Offshore Wind Farm – EIA Section 36 consent and Marine Licence Applications - Consultation – Response Required by 6 March 2026
Date: 06 March 2026 18:21:50
Attachments: [image001.png](#)
[image002.png](#)
[image003.png](#)

Dear Marine Directorate,

Thank you for the opportunity to provide comment on the Section 36 and Marine Licence application for MarramWind.

The Chamber has been engaged by the developer and their risk consultants during the consenting phase at Scoping and via the NRA process, and most recently met with them on 26 February to discuss the EIA's analysis of impacts to shipping and navigation from the proposed development.

From that engagement and from review of the EIA Chapters, the Chamber provides the following comments:

Wet Storage

The Chamber notes the developer's assumption regarding wet storage, specifically that wet storage of assembled WTGs will occur within port limits. The Chamber recognises that this is the standard response from floating offshore wind developers and acknowledges that in such instances where wet storage is available in port limits that it would be the responsibility of the relevant port authority to conduct its own risk assessment regarding wet storage operations.

It is however in the Chamber's view that with the number of floating offshore wind developments and accordingly the cumulative number of WTGs progressing through the consenting process in the UK, that it is no longer realistic for developers to assume that wet storage will be within port limits. Port limits are restricted in their available space for such devices, in this instance expected to be 100m x 120m in size with requirements for mooring arrangements and anchor spread severely limiting the available space for storage of WTGs prior to deployment or during periods of major maintenance. Furthermore, use of wet storage in port limits is likely to directly impact upon available anchoring and safe sheltering searoom for vessels, of which is a growing concern, not least as the mooring arrangements for floating WTGs in wet storage areas are so unclear.

The Chamber recognises that the Project has chosen to scope out wet storage from the risk assessment, as every other developer chooses to do at Section 36. Whilst this has become commonplace, it overlooks what is a significant operational, technical, safety and spatial challenge that floating offshore wind presents. This challenge needs addressing either at a holistic cumulative level or at an individual project level by requiring the Rochdale Envelope of the project specification to be more tightly defined and therefore able to be commented upon.

Construction Phases

The Chamber wishes to better understand how the offshore construction phase

intending to be carried out continuously over three phases and potentially lasting up to 12 years will be managed from a lighting and marking perspective. In particular whether the entire PDA will be buoyed and marked off for the duration of the construction period or whether this will be incremental.

The Chamber has requested detail on the sequencing of the phases and respective layouts to understand impact to navigation, but understand from the developer that such detail has not been decided and will be considered post consent. Whilst the Chamber acknowledges that layouts as presented in the NRA are indicative worst case, they do not show phases and this provides some navigational concern for the construction phase as to safe vessel routing.

Operational Lifetime & Decommissioning

The project asserts that it will have a maximum 35-year operational lifetime at the O&M stage. The Chamber wishes to understand whether this operational phase is started from when the first phase of the development becomes operational, or whether each phase has an operational lifetime from the point of becoming operational. Such detail was able to be

The Chamber notes from the EIA that “the decommissioning duration of the offshore infrastructure is anticipated to take three years.” The Chamber would like to know whether this is from the first phase of the development reaching its maximum operational lifetime or whether three years is expected for each phase. Such clarity was not attainable from the EIA chapters.

Loss of Station

The project has defined Loss of Station as “*In the event that the mooring system holding a floating unit fails, the floating substructure may experience loss of station and become a floating hazard to passing vessels.*”

The Chamber would assert that a loss of station also results in floating hazard to the other WTGs in the development and that a significant “ricochet” effect could be experienced within the development, which could be highly serious.

The Chamber notes that whilst loss of station has been considered, loss of tow has not and that given the significant operational movement of WTGs to and from the development, depending on the location of the wet storage areas (as yet unknown), this potentially poses a meaningful risk to surface navigation that has not been considered.

The Chamber notes that the NRA states that during the construction stage “*a project vessel would be able to respond in a timely manner ensuring a loss of station event does not occur and appropriate arrangements are taken which may include towing the floating unit off-site*”. The Chamber admires the confidence in the mitigation stated but queries whether such confidence is realistic given the scale of the WTGs and operational experience from the shipping industry in reconnecting to drifting assets, in particular in adverse weather.

The Chamber has requested to review the emergency response and towing plans for such an incident of loss of tow, partial or complete breakout, but understands from the developer that such plans are not developed and will be dealt with post consent due to the broadness of the Rochdale Envelope, the uncertainty of assets that will be used, and feasibility of what intervention is possible. The reliance upon development of plans

post consent when there is limited consultation out with the regulator and not necessary with industry expertise is a concern that the Chamber raises not just with this project but broadly across floating offshore projects progressing through consenting.

Marking of Charts

The Chamber notes that Appropriate marking on Admiralty Charts is declared as an embedded mitigation measure. Whilst this is correct, it has not yet been determined what the appropriate marking will be by the UKHO and whilst this is unknown by the industry, concern exists that the varied mooring and inter-array cabling arrangements for floating WTGs may not provide the granularity of detail for navigational or fishing industries to be able to fully use the area safely. This is particularly the case when it comes to fishing, which if entirely marginalised from the development area, then leads to greater interaction with commercial shipping with resulting increase in navigational risk for both parties.

In summary, the Chamber is concerned that with floating developments, due to the increased uncertainty around their design and deployment, that an increasing number of important aspects are being dealt with post consent, without presenting the necessary detail to stakeholders/receptors to comment upon at consenting.

The Chamber hopes these comments are of use to the Marine Directorate and would be happy to expand upon if merited.

Yours faithfully,

Robert

Robert Merrylees

Policy Director (Shipping Industry & Research)

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