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MORGAN OFFSHORE WIND PROJECT: GENERATION ASSETS

Annex 3.3 to Hearing Action Point 20: Assessment of impacts on non-ornithological features of proposed Ramsar Sites within the Isle of Man

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Image of an offshore wind farm

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Contents

Tables

Glossary

Term	Meaning
Applicant	Morgan Offshore Wind Limited.
Development Consent Order (DCO)	An order made under the Planning Act 2008 granting development consent for one or more Nationally Significant Infrastructure Project (NSIP).
Morgan Offshore Wind Project: Generation Assets	This is the name given to the Morgan Generation Assets project as a whole (includes all infrastructure and activities associated with the project construction, operations and maintenance, and decommissioning).
The Planning Inspectorate	The agency responsible for operating the planning process for Nationally Significant Infrastructure Projects.

Acronyms

Acronym	Description
AEoI	Adverse Effect on Integrity
ASSI	Areas of Special Scientific Interest
BDMPS	Biologically Defined Minimum Population Scales
CGR	Counterfactual of Growth Rate
CPS	Counterfactual of Population Size
DAFF	Department of Agriculture Fisheries and Forestry
EIA	Environmental Impact Assessment
EMF	Electromagnetic Field
ExA	Examining Authority
HRA	Habitats Regulations Assessment
IoM	Isle of Man
ISAA	Information to Support an Appropriate Assessment
JNCC	Joint Nature Conservation Committee
LSE	Likely Significant Effect
MNRs	Marine Nature Reserves
NRW	Natural Resources Wales
PVA	Population Viability Analysis
SAC	Special Area of Conservation
SMP	Seabird Monitoring Programme
SNCB	Statutory Nature Conservation Body
SPAs	Special Protection Areas
UK	United Kingdom
UKOTCF	UK Overseas Territories Conservation Forum
UXO	Unexploded ordnance

Acronym	Description
ZoI	Zone of Influence

Units

Unit	Description
%	Percentage
km^2	Square kilometres
km	Kilometres
m	Metres

1 ASSESSMENT OF IMPACTS ON NON-ORNITHOLOGICAL FEATURES OF PROPOSED RAMSAR SITES WITHIN THE ISLE OF MAN

1.1 Summary

1.1.1.1 This assessment of non-ornithological features of the proposed Ramsar (pRamsar) sites on the Isle of Man has been prepared to allow the Secretary of State to complete an appropriate assessment on these sites if it is determined one is required.

1.1.1.2 The Isle of Man Government did not raise any concerns with respect to the five pRamsar sites during pre-application consultation or in its Relevant Representation (RR-015) with respect to the consideration of these sites in the Habitats Regulations Assessment (HRA) Stage 1 Screening Report (APP-099). Therefore the Applicant focused on the potential for impacts to features of the Isle of Man Marine Nature Reserves (MNRs), as identified as priorities by the Isle of Man Government, in the Environmental Impact Assessment (EIA).

1.1.1.3 However, information to support appropriate assessment of these five pRamsar sites has been provided in this note as an addendum to the HRA Stage 2 Information to Support an Appropriate Assessment (ISAA), Part Two: Special Areas of Conservation assessments (APP-097), to ensure all information is in one place and available to the Examining Authority and Secretary of State, should an appropriate assessment be required on these sites. A separate assessment for ornithological features of the pRamsar sites on the Isle of Man has also been prepared as an addendum to the HRA Stage 2 Information to Support an Appropriate Assessment (ISAA), Part Three: Special Protection Areas and Ramsar Site assessments (APP-098) (S_D5_3.2).

1.1.1.4 Based on the evidence presented in Volume 2, Chapter 1: Physical processes (APP-013), Volume 2, Chapter 2: Benthic subtidal ecology (APP-020), Volume 2, Chapter 3: Fish and shellfish ecology (APP-021), Volume 2, Chapter 4: Marine mammals (S_D5_11 Marine mammals F03), HRA Stage 1 Screening Report (APP-099), and HRA Stage 2 Information to Support an Appropriate Assessment (ISAA), Part Two: SACs Assessments (APP-097), it has been concluded that for all non-ornithological features of all sites taken forward for full assessment, no adverse effect on integrity (AEoI) is predicted as a result of the Morgan Generation Assets alone or in-combination with other plans and projects.

1.2 Introduction

1.2.1 Background

1.2.1.1 This clarification note has been produced in response to Issue Specific Hearing 2 (ISH2) Action Point 20 which is provided below:

“Provide an update to the HRA screening report to record consideration of the IoM existing and proposed Ramsar Sites, so all the information is in one place”.

1.2.1.2 This ISH2 Action Point follows on from the Examining Authority’s first round of written questions, specifically question MO 1.17 which is provided below:

"Isle of Man Ramsar sites

The Isle of Man is not an EEA State and thus is not signed up to the Habitats/Birds Directives and do not designate SPAs and SACs. However, they are signatories to the Ramsar Convention.

Can the Applicant confirm whether any consideration has been given to the potential for effects on the following Isle of Man Ramsar sites (potential and listed) and if so, confirm the conclusions in this regard?

- *Ballaugh Curragh Ramsar site;*
- *Central Valley Curragh proposed Ramsar site;*
- *Dalby Peatlands proposed Ramsar site;*
- *Gob ny Rona, Maughold Head and Port Cornaa proposed Ramsar site;*
- *Southern Coasts and Calf of Man proposed Ramsar site; and*
- *The Ayres proposed Ramsar site."*

1.2.1.3 The Applicant responded to question MO1.17 within the Applicant's Response to Examining Authority's Written Questions (REP3-006) and confirmed that the Applicant used the maps data provided on the official Isle of Man Government website (https://www.gov.im/maps/) to identify the Isle of Man designated sites. With regards to the five proposed Ramsar sites listed by the Examining Authority on the Isle of Man, the Applicant notes that these sites are not included in the maps data provided on the official Isle of Man Government website (https://www.gov.im/maps/). The only reference that the Applicant is aware of relating to these sites is in the UK Overseas Territories Conservation Forum (UKOTCF) (2005a) review of existing and proposed Ramsar sites in UK Overseas Territories and Crown Dependencies and associated Annex 2 of draft Ramsar Information Sheets (UKOTCF, 2005b). At no point during pre-application consultation, or in its Relevant Representation (RR-015), did the Isle of Man Government raise the five proposed Ramsar sites to the Applicant, nor request consideration of these in the Habitats Regulations Assessment (HRA) Stage 1 Screening Report (APP-099). The Applicant has, therefore, focussed on the Isle of Man Marine Nature Reserves (MNRs) in the Environmental Impact Assessment (EIA).

1.2.1.4 In addition, the Examining Authority, as part of their second round of written questions, specifically HRA 2.8, asked the following:

"Isle of Man Ramsar Sites

Further to the Applicant's response to ExQ1 MO 1.17 the IoM Government TSC confirmed in their response to ISH2 action point 19 that the Applicant has given appropriate consideration to the relevant seabird colonies and listed/proposed Ramsar sites [REP4-039]. The Applicant is asked to ensure that the HRA screening report is updated by D6 to include the information provided. The IoM Government TSC and the Applicant are asked to include the matter in the next version of their SoCG."

1.2.1.5 The IoM Government TSC full response (REP4-039) is provided below:

"Potential Ramsar sites were identified in a project with a contractor working with Crown Dependency and Overseas Territory governments. One of these (Ballaugh Curragh) has been designated and the others remain as site proposals, but not yet formally put forward for designation, though requiring consideration of national protection measures (e.g. ASSI) alongside Ramsar designation. They therefore do show where there is international level interest, but have not been given full protection across those areas. With regard to designated sites, we previously noted that there are Areas of Special Scientific Interest with designated costal cliff breeding bird

interest, including seabirds, which haven't been listed as sites of national interest for ornithology, but also pointed out that some of our biggest seabird colonies are not currently designated as ASSIs, as this programme is not completed. The applicant therefore included all of the Manx colonies in coastal sections within the apportioning chapter on ornithology (Volume 4, Annex 5.5). Additionally, as identified by the applicant, the coastal potential Ramsar sites are covered within the Isle of Man Marine Nature Reserves (MNRs) which were covered in the ES. We are therefore content that an appropriate view has been given to these colonies within the Statement, which indicates no LSE and therefore concur with the Applicant's response to ExQ1 MO1.17".

1.2.2 Context

1.2.2.1 The Applicant notes that the Isle of Man MNRs, which were designated in 2018 (under the Wildlife Act, 1990), provide coverage of most of the coastline of the Isle of Man, including the areas proposed to be covered by the Gob ny Rona, Maughold Head and Port Cornaa proposed Ramsar site, the Southern Coasts and Calf of Man proposed Ramsar site and The Ayres proposed Ramsar site. The Applicant also notes that the proposed features of these proposed Ramsar sites are now designated under the Isle of Man MNRs. The Applicant has given due consideration in the EIA to the potential for impacts to features of the Isle of Man MNRs, as identified as priorities by the Isle of Man Government.

1.2.2.2 However, this clarification note has been prepared to present an assessment of these proposed Ramsar sites to allow the Secretary of State to complete an Appropriate Assessment on these sites if they determine one is required.

1.2.2.3 The Information Sheets for the proposed Ramsar sites considered within this document come from the UK Overseas Territories Conservation Forum 2005 report 'Review of existing and potential Ramsar sites in UK Overseas Territories and Crown Dependencies' (UKOTCF) (2005a) (hereafter referred to as the Site Information Sheet), which the Applicant believes are the most recent versions of the Information Sheets.

1.2.2.4 One of the sites within the 2005 review, The Ballaugh Curragh Ramsar site was fully designated in September 2006. The Applicant can confirm that the Ballaugh Curragh Ramsar site was also considered as part of the HRA screening exercise undertaken in HRA Stage 1 Screening Report (APP-099). The terrestrial habitat features of this site were screened out due to having no potential connectivity with the Morgan Generation Assets. The ornithological features of the site (corncrake *Crex crex* and hen harrier *Circus cyaneus*) were both incorporated into the 'migratory waterbirds' bird category and no Likely Significant Effect (LSE) was identified for any designated sites at which these two species are qualifying features. However, to provide a complete assessment that aligns with the Ramsar sites mentioned in the Examining Authority's question, Ballaugh Curragh Ramsar site is included explicitly within the assessment of ornithological features of the pRamsar sites on the Isle of Man (Consideration of impacts on ornithological features of Ramsar sites on the Isle of Man (S_D5_3.2). The other sites are still at a 'proposed' stage, with no official confirmation from the Isle of Man Government as to their status.

1.2.2.5 Within the review (UKOTCF, 2005a) it is stated that:

"The term 'proposed' when used in this report means proposed by this Review (or an earlier proposal confirmed by this Review). Whilst in most cases individuals or organisations in the territories concerned have been consulted on the list of proposed sites, it does not mean that these sites have been formally proposed to Government

for designation. Thus whilst many of these sites have the potential to be proposed by the relevant authorities, 'proposed' is taken to mean 'potential sites that have been identified as meriting Ramsar designation by the Review of Existing and potential Ramsar sites in the UK Overseas Territories and Crown Dependencies'."

1.2.2.6 It is for this reason that the Applicant believes the Isle of Man has focused on designating protected sites under their own legislation (e.g. MNR and/or Areas of Special Scientific Interest (ASSIs)).

1.2.2.7 This report considers the likely impacts from the Morgan Generation Assets on non-ornithological features of these sites.

1.3 Summary of the pRamsar sites within the Isle of Man

1.3.1.1 The Applicant has undertaken a review of the Information Sheets within UKOTCF (2005a) and the Isle of Man's online 'Island Environment' map (Isle of Man Government, 2024) to determine the pRamsar sites extent and latest information. Where the 'Island Environment' map showed the proposed spatial extent of the pRamsar sites, these are presented in Appendix A:.

1.3.1.2 As part of Volume 1, Chapter 1: Physical processes (APP-013), Volume 2, Chapter 2: Benthic subtidal ecology (APP-020), Volume 2, Chapter 3: Fish and shellfish ecology (APP-021), and Volume 2, Chapter 4: Marine mammals (S_D5_11 Marine mammals F03), the Applicant has reviewed the sensitivity of the species that are mentioned on the Information Sheets of these pRamsar sites. This information is cross referenced in this report. As this report assesses the impact on non-ornithological features of pRamsars only, the ornithological features have been assessed separately in S_D5_3.2 Consideration of impacts on ornithological features of Ramsar sites on the Isle of Man, submitted at Deadline 5.

1.3.2 Central Valley Curragh pRamsar site

1.3.2.1 Information relevant to this assessment presented within the Site Information Sheet on the Central Valley Curragh pRamsar site is provided in Table 1.1 and a map showing the location of the site is provided in Appendix A:, Figure 1.1. However, this site is wholly terrestrial and is 'lowland flat river valley curraghs (carrs)', which is 'retaining characteristic nature as one of the best remaining examples of a river-valley curragh'. No migratory species nor marine habitats are present, and therefore, there is no potential connectivity between the Morgan Generation Assets and the Central Valley Curragh pRamsar site.

Table 1.1: Information on the Central Valley Curragh pRamsar site.

Information	Description from Information Sheet
Location	Central valley from near Peel to near Douglas
Criterion 1	Particularly good surviving example of shrub-dominated riverside curraghs (carrs).
Other designated sites with presumed overlap	None
Estimated distance to the Morgan Generation Assets	Approximately 27.1 km - no potential for connectivity.

1.3.3 Dalby Peatlands pRamsar site

1.3.3.1 Information relevant to this assessment presented within the Information Sheet on the Dalby Peatlands pRamsar site is provided in Table 1.2 and a map showing the location of the site is provided in Appendix A:, Figure 1.2. However, this site is wholly terrestrial and 'the area contains a very good representative of this typical Manx habitat, with conspicuous shows of cotton grass, bog asphodel and heath-spotted orchids'. No migratory species nor marine habitats are present, and therefore, there is no potential connectivity between the Morgan Generation Assets and the Dalby Peatlands pRamsar site.

Table 1.2: Information on the Dalby Peatlands pRamsar site.

Information	Description from Information Sheet
Location	7 km south of Peel
Criterion 1	Dalby Peatland is a representative of a wet heath and bog habitat in a near-natural condition.
Criterion 2	Both heathland and bog are limited in their European distribution and known to be subject to a range of threats.
Offshore ornithological species mentioned within the Information Sheet	Hen harrier
Other designated sites with presumed overlap	'Dalby Mountain' Manx Wildlife Trust site. Adjacent to Glen Rushen ASSI
Estimated distance to the Morgan Generation Assets	Approximately 35.9 km - no potential for connectivity.

1.3.3.2 Hen harrier at the Dalby Peatlands proposed Ramsar is identified in Table 1.2. However, it should be noted that the Information Sheet for the Dalby Peatlands proposed Ramsar sites includes hen harrier in the 'noteworthy fauna' section only with no mention of bird species as a criterion for proposed designation.

1.3.4 Gob ny Rona, Maughold Head and Port Cornaa pRamsar site

1.3.4.1 Information relevant to this assessment presented within the Information Sheet on the Gob ny Rona, Maughold Head and Port Cornaa pRamsar site is provided in Table 1.3 and a map showing the location of the site is provided in Appendix A:, Figure 1.3.

Table 1.3: Information on the Gob ny Rona, Maughold Head and Port Cornaa pRamsar site.

Information	Description from Information Sheet
Location	Coast southward from Ramsey
Criterion 1	Rocky marine shore ecosystem including cliffs, maerl, kelp and knotted wrack beds and priority seagrass beds.
Criterion 2	Supports vulnerable, endangered, or critically endangered species or threatened ecological communities.
Criterion 4	The cliffs and coastal waters support important breeding populations of seabirds and grey seals.
Criterion 8	The Sulby River is considered important as a salmon and sea trout river.

Information	Description from Information Sheet
Offshore ornithological species mentioned within the Information Sheet (see S_D5_3.2 Consideration of impacts on ornithological features of Ramsar sites on the Isle of Man, submitted at Deadline 5)	Atlantic puffin *Fratercula arctica* Black guillemot *Cepphus grylle* Black-legged kittiwake *Rissa tridactyla* Common guillemot *Uria aalge* Cormorant *Phalacrocorax carbo* Great black-backed gull *Larus marinus* Herring gull *Larus argentatus* Lesser black-backed gull *Larus fuscus* Northern fulmar *Fulmarus glacialis* Razorbill *Alca torda* Shag *Gulosus aristotelis*
Marine habitats mentioned within the Information Sheet – not 'official features' as they do not fall into a specific criteria for designation Mentioned under Criterion 1 and 2	Rocky marine shore ecosystem including cliffs, maerl, kelp and knotted wrack beds and seagrass beds. Horse mussel beds Saltmarsh
Fish/shellfish species mentioned within the Information Sheet – not 'official features' as they do not fall into a specific criteria for designation. Mentioned under Criterion 8	Salmon *Salmo salar* Sea trout *Salmo trutta*
Marine mammal species mentioned within the Information Sheet – not 'official features' as they do not fall into a specific criteria for designation. Mentioned under Criterion 1 and 4	Grey seal *Halichoerus grypus*
Other designated sites with presumed overlap	Ramsey Bay MNR Maughold Cliffs and Brooghs ASSI
Estimated distance to the Morgan Generation Assets	Approximately 25.5 km

1.3.4.2 As there are non-ornithological features including marine habitats and marine species listed within the Information Sheet for this site, an impact-receptor pathway exists, and so this site is considered further within this document, see section 1.4.

1.3.5 Southern Coasts and Calf of Man pRamsar site

1.3.5.1 Information relevant to this assessment presented within the Information Sheet on the Southern Coasts and Calf of Man pRamsar site is provided in Table 1.4 and a map showing the location of the site is provided in Appendix A:, Figure 1.4.

Table 1.4: Information on the Southern Coasts and Calf of Man pRamsar site.

Information	Description from Information Sheet
Location	The coast from Peel southward, including the Calf of Man and Chicken Rock, and eastward along the southern coast to Santon Burn mouth, including the Langness peninsula. The site passes (and excludes) the small towns of Port Erin, Port St Mary and Castletown.

Information	Description from Information Sheet
Criterion 1	Important complex of coastal and marine habitats, including: marine, subtidal beds of priority ecosystem seagrass as well as kelp and knotted wrack, maerl, rocky shores, cliffs, sea caves and coastal heath.
Criterion 3	The heath on Langness is the only site in the British Isles site for the grasshopper *Stenobothrus stigmaticus*. Langness is the main site in the Isle of Man for waterbirds.
Criterion 4 (for ornithological features see S_D5_3.2 Consideration of impacts on ornithological features of Ramsar sites on the Isle of Man, submitted at Deadline 5)	The cliffs and coastal waters support important breeding populations of seabirds. The Calf of Man is an important breeding colony for grey seals. Wart Bank, to the south east of the Calf of Man is a shallow submerged sandbank which is recognized as an important fish and bird feeding ground.
Criterion 7	The southern coasts of the Isle of Man are important summer feeding grounds for basking shark *Cetorhinus maximus*.
Criterion 8	Port Erin Bay is an important plaice *Pleuronectes platessa* nursery ground.
Offshore ornithology species mentioned within the Information Sheet (for ornithological features see S_D5_3.2 Consideration of impacts on ornithological features of Ramsar sites on the Isle of Man, submitted at Deadline 5)	Atlantic puffin Black guillemot Black-legged kittiwake Common guillemot Great black-backed gull Herring gull Lesser black-backed gull Manx shearwater *Puffinus puffinus* Northern fulmar Razorbill Shag
Marine habitats mentioned within the Information Sheet – not 'official features' as do not fall into a specific criteria for designation. Mentioned under Criterion 1	Seagrass beds Kelp and knotted wrack Maerl Rocky shores Cliffs Sea caves Coastal heath Sandbank
Fish/shellfish species mentioned within the Information Sheet – not 'official features' as do not fall into a specific criteria for designation. Mentioned under Criterion 4 and 7	Basking shark Plaice (nursery ground) Crayfish *Palinurus elephas*
Marine mammal species mentioned within the Information Sheet – not 'official features' as do not fall into a specific criteria for designation. Mentioned under Criterion 4	Grey seal

Information	Description from Information Sheet
Other designated sites with presumed overlap	Baie ny Carrickey MNR Calf and Wart Bank MNR Dalby Coast ASSI Glen Maye ASSI Langess MNR Langness, Sandwick and Derbyhaven ASSI Niarbyl Bay MNR Port Erin Bay MNR Port St Mary Ledges and Kallow Point ASSI Poyll Vaaish Coast ASSI
Estimated distance to the Morgan Generation Assets	Approximately 25.5 km

1.3.5.2 As there are non-ornithological features including marine habitats and marine species listed within the Information Sheet for this site, an impact-receptor pathway exists, and so this site is considered further within this document, see section 1.4.

1.3.6 The Ayres pRamsar site

1.3.6.1 Information relevant to this assessment presented within the Information Sheet on The Ayres pRamsar site is provided in Table 1.5 and a map showing the location of the site is provided in Appendix A:, Figure 1.5.

Table 1.5: Information on The Ayres pRamsar site.

Information	Description from Information Sheet
Location	Northernmost tip of Isle of Man, 9 km north of Ramsey
Criterion 1	The Ayres is a diverse representative of shingle, vegetated shingle, dune and cobble coastal ecosystems which includes lichen heath on sand/shingle and combination of related habitats.
Criterion 2	Supports the endangered moth *Pyrausta sanguinalis* on thyme, and vulnerable fly *Bombylius minor* on the heath. Maerl beds and horse mussel beds Rare invertebrates
Criterion 3	Important marine habitats – maerl and horse mussel beds offshore. Edible mussel *Mytilus edulis* bed mixed with kelp of conservation interest.
Criterion 4	Important feeding area for seabirds.
Criterion 7	Important marine habitats – maerl, horse mussels offshore, and unusual dense edible mussel bed mixed with kelp of conservation interest.
Criterion 8	Maerl is now recognised as important habitat for fish and shellfish settlement and nursery area, so the extensive maerl beds to the east of the Point of Ayre are likely to be of importance to local populations of fish and shellfish.

Information	Description from Information Sheet
Offshore ornithological species considered (for ornithological features see S_D5_3.2 Consideration of impacts on ornithological features of Ramsar sites on the Isle of Man, submitted at Deadline 5)	Arctic tern *Sterna paradisaea* Black-headed gull *Chroicocephalus ridibundus* Common gull *Larus canus* Common tern *Sterna hirundo* Great black-backed gull Herring gull Lesser black-backed gull Little tern *Sternula albifrons* Northern gannet *Morus bassanus* Wintering divers
Marine habitats mentioned within the Information Sheet – not 'official features' as do not fall into a specific criteria for designation Mentioned under Criterion 1, 2, 3 and 4	Shingle, vegetated shingle, dune and cobble coastal ecosystems *Mytilus edulis* beds (mixed with kelp) Maerl beds Horse mussel beds
Fish/shellfish species mentioned within the Information Sheet – not 'official features' as do not fall into a specific criteria for designation. Mentioned under Criterion 8	Herring *Clupea harengus* Salmon Sea trout
Other designated sites with presumed overlap	West Coast MNR Central Ayres ASSI The Ayres NNR
Estimated distance to the Morgan Generation Assets	Approximately 40.1 km

1.3.6.2 As there are non-ornithological features including, marine habitats and marine species listed within the Information Sheet for this site, an impact-receptor pathway exists, and so this site is considered further within this document, see section 1.4.

1.4 HRA Stage 1 – Screening

1.4.1 Potential connectivity

Marine habitats

1.4.1.1 As set out in section 1.3.2 of the HRA Stage 1 Screening Report (APP-099), the initial stage of screening of European sites designated for marine habitats is to determine the potential for connectivity with the Morgan Generation Assets. The potential for connectivity is determined by the presence/absence of a physical overlap between the pRamsar and the Morgan Generation Assets, or the zone of influence (ZoI) defined for the Morgan Generation Assets. This has been determined by the outputs of physical processes modelling in Volume 2, Chapter 1: Physical processes (APP-013) with a surrounding precautionary buffer zone (i.e. 15 km).

1.4.1.2 The outputs of the initial screening are summarised in Table 1.6 which demonstrates that all pRamsars are located beyond the 15 km ZoI. There is therefore no potential for connectivity with any of the pRamsars with marine habitats as features and so marine habitats are screened out of further consideration within this document.

Table 1.6: Initial screening of pRamsar sites for marine habitats.

pRamsar site	Distance to the Morgan Generation Assets (km)	Marine habitats mentioned within the Information Sheets	Connectivity been site and the Morgan Generation Assets
Gob ny Rona, Maughold Head and Port Cornaa	~25.5 km	Rocky marine shore ecosystem including cliffs, maerl, kelp and knotted wrack beds and seagrass beds	No, this site and all associated habitat features are located beyond the 15 km ZoI so are screened out for further consideration for all impact pathways.
		Horse mussel beds	
		Saltmarsh	
Southern Coasts and Calf of Man	~25.8 km	Seagrass	No, this site and all associated habitat features are located beyond the 15 km ZoI so are screened out for further consideration for all impact pathways.
		Kelp and knotted wrack	
		Maerl	
		Rocky shores	
		Cliffs	
		Sea caves	
		Coastal heath	
		Sandbank	
The Ayres	~40.1 km	Shingle, vegetated shingle, dune and cobble coastal ecosystem	No, this site and all associated habitat features are located beyond the 15 km ZoI so are screened out for further consideration for all impact pathways.
		Mytilus edulis beds (mixed with kelp)	
		Maerl bed	
		Horse mussel bed	

Fish and shellfish

1.4.1.3 As set out in section 1.3.3 of the HRA Stage 1 Screening Report (APP-099), the initial stage of screening of European sites designated for fish species is to determine the potential for connectivity with the Morgan Generation Assets. The potential for connectivity is determined by the presence/absence of a physical overlap between the pRamsar and the Morgan Generation Assets or the zone of influence (100 km) defined to capture migratory fish species which may be affected by indirect impacts such as underwater sound and increased suspended sediment concentrations (SSCs).

1.4.1.4 The outputs of the initial screening are summarised in Table 1.7 which demonstrates that there is potential for connectivity between the Morgan Generation Assets and the three pRamsars with fish and shellfish species as features. Fish and shellfish are therefore screened in for further consideration in this document.

Table 1.7: Initial screening of pRamsar sites for fish and shellfish species.

pRamsar site	Distance to the Morgan Generation Assets (km)	Species mentioned within the Information Sheets	Connectivity been site and the Morgan Generation Assets
Gob ny Rona, Maughold Head and Port Cornaa	~25.5 km	Salmon	Yes
		Trout	
Southern Coasts and Calf of Man	~25.5 km	Basking shark	Yes
		Plaice	
		Crayfish	
The Ayres	~40.1 km	Herring	Yes
		Salmon	
		Sea trout	

Marine mammals

1.4.1.5 As set out in section 1.3.4 of the HRA Stage 1 Screening Report (APP-099), the initial stage of screening of European sites designated for marine mammal species is to determine the potential for connectivity with the Morgan Generation Assets. The potential for connectivity is determined by the presence/absence of a physical overlap between the pRamsar and the Morgan Generation Assets or an overlap between the Morgan Generation Assets and Inter-agency Marine Mammal Working Group management units (MU) for marine mammals.

1.4.1.6 The outputs of the initial screening are summarised in Table 1.8 which demonstrates that there is potential for connectivity between the Morgan Generation Assets and two pRamsars with marine mammal species as features (i.e. Gob ny Rona, Maughold Head and Port Cornaa pRamsar and Southern Coasts and Calf of Man pRamsar). Marine mammals are therefore screened in for further consideration in this document.

Table 1.8: Initial screening of pRamsar sites for marine mammal species.

pRamsar site	Distance to the Morgan Generation Assets (km)	Species mentioned within the Information Sheets	Connectivity been site and the Morgan Generation Assets
Gob ny Rona, Maughold Head and Port Cornaa	~25.5 km	Grey seal	Yes
Southern Coasts and Calf of Man	~25.5 km	Grey seal	Yes
The Ayres	~40.1 km	None	N/A (as there are no marine mammal features mentioned for this site)

1.4.2 Assessment of LSE

Fish and shellfish

1.4.2.1 The next step within the HRA Stage 1 Screening Report (APP-099) was to examine the potential impact pathways for the Morgan Generation Assets on the pRamsars and fish/shellfish species to determine if an LSE can be excluded.

1.4.2.2 Table 1.9 provides the results of the screening of impact pathways which have the potential to result in an LSE on the pRamsar sites with fish and shellfish features (identified in section 1.3).

1.4.2.3 Table 1.9 concludes that LSE cannot be ruled out for the ‘underwater sound impacting fish and shellfish receptors’ impact pathway and the ‘electromagnetic field (EMF) from subsea electrical cabling’ impact pathway only.

Table 1.9: Assessment of LSE for pRamsar sites for fish and shellfish species.

pRamsar site	Distance to the Morgan Generation Assets (km)	Species mentioned within the Information Sheets	Impact pathways	Taken through to HRA Stage 2	Justification
Gob ny Rona, Maughold Head and Port Cornaa	~25.5 km	All fish features	Temporary habitat loss/disturbance Increases in SSC and sediment deposition Long-term habitat loss Introduction of artificial structures and colonisation Disturbance/remobilisation of sediment bound contaminants Accidental pollution	No	Impact pathways screened out based on the justifications provided for diadromous fish in section 1.4.3 of the HRA Stage 1 Screening Report (APP-099).
		Salmon	Underwater sound impacting fish and shellfish receptors	Yes	As outlined in paragraphs 1.4.3.17 and 1.4.3.35 of the HRA Stage 1 Screening Report (APP-099), there is potential for migratory species such as salmon to be present within, or transiting through, the Morgan Generation Assets and potential zone of impact from underwater sound. There is therefore the potential for LSE during the construction and decommissioning phases.
			EMF from subsea electrical cabling	Yes	As outlined in paragraph 1.4.3.29 of the HRA Stage 1 Screening Report (APP-099), EMF emitted from subsea electrical cabling has the potential to interfere with the navigation of migratory fish, such as salmon, that may be present within or transiting through the Morgan Generation Assets. There is, therefore, the potential for LSE during the operations and maintenance phase.
		Trout	Underwater sound impacting fish and shellfish receptors	Yes	As outlined in section 1.9.3 of Volume 4, Annex 3.1: Fish and shellfish ecology technical report (APP-051), there is potential for trout to be present within, or transiting through, the Morgan Generation Assets and potential zone of impact from underwater sound. There is, therefore, the potential for LSE during the construction and decommissioning phases.

pRamsar site	Distance to the Morgan Generation Assets (km)	Species mentioned within the Information Sheets	Impact pathways	Taken through to HRA Stage 2	Justification
			EMF from subsea electrical cabling	Yes	As outlined in section 3.9.6 of Volume 2, Chapter 3: Fish and shellfish ecology (APP-021), EMF emitted from subsea electrical cabling has the potential to interfere with the navigation of migratory fish, such as trout, that may be present within or transiting through the Morgan Generation Assets. There is, therefore, the potential for LSE during the operations and maintenance phase.
Southern Coasts and Calf of Man	~25.5 km	All fish and shellfish features	Temporary habitat loss/disturbance Increases in SSC and sediment deposition Long-term habitat loss Introduction of artificial structures and colonisation Disturbance/remobilisation of sediment bound contaminants Accidental pollution	No	Impact pathways screened out based on the justifications provided for diadromous fish in section 1.4.3 of the HRA Stage 1 Screening Report (APP-099).
		Basking shark	Injury due to increased risk of collision with vessels	No	For the reasons outlined in section 3.9.9 of Volume 2, Chapter 3: Fish and shellfish ecology (APP-021), the risk of collision events for basking shark is low and this impact pathway is screened out.
			Underwater sound impacting fish and shellfish receptors	Yes	As outlined in section 3.9.3 of Volume 2, Chapter 3: Fish and shellfish ecology (APP-021), there is potential for basking shark to be present within, or transiting through, the Morgan Generation Assets and potential zone of impact from underwater sound. There is, therefore, the potential for LSE during the construction and decommissioning phases.

pRamsar site	Distance to the Morgan Generation Assets (km)	Species mentioned within the Information Sheets	Impact pathways	Taken through to HRA Stage 2	Justification
			EMF from subsea electrical cabling	Yes	As outlined in section 3.9.6 of Volume 2, Chapter 3: Fish and shellfish ecology (APP-021), EMF emitted from subsea electrical cabling has the potential to interfere with the navigation of migratory fish, such as basking shark, that may be present within or transiting through the Morgan Generation Assets. There is, therefore, the potential for LSE during the operations and maintenance phase.
		Plaice	Underwater sound impacting fish and shellfish receptors	Yes	As outlined in section 3.9.3 of Volume 2, Chapter 3: Fish and shellfish ecology (APP-021), there is the potential for plaice to be present within the Morgan Generation Assets and potential zone of impact from underwater sound. There is therefore the potential for LSE during the construction and decommissioning phases.
			EMF from subsea electrical cabling	Yes	As outlined in section 3.9.6 of Volume 2, Chapter 3: Fish and shellfish ecology (APP-021), there is potential for plaice to be present within the Morgan Generation Assets. There is, therefore, the potential for LSE during the operations and maintenance phase.
		Crayfish	Underwater sound impacting fish and shellfish receptors	No	Crayfish show high site fidelity (Gibson-Hall *et al*., 2020) and so features of this pRamsar are unlikely to be present within the Morgan Generation Assets and potential zone of impact from underwater sound. This impact pathway is screened out.
			EMF from subsea electrical cabling	No	Crayfish show high site fidelity (Gibson-Hall *et al*., 2020) and so features of this pRamsar are unlikely to be present within the Morgan Generation Assets. This impact pathway is screened out.

pRamsar site	Distance to the Morgan Generation Assets (km)	Species mentioned within the Information Sheets	Impact pathways	Taken through to HRA Stage 2	Justification
The Ayres	~40.1 km	All fish features	Temporary habitat loss/disturbance Increases in SSC and sediment deposition Long-term habitat loss Introduction of artificial structures and colonisation Disturbance/remobilisation of sediment bound contaminants Accidental pollution	No	Impact pathways screened out based on the justifications provided for diadromous fish in section 1.4.3 of the HRA Stage 1 Screening Report (APP-099).
		Herring	Underwater sound impacting fish and shellfish receptors	Yes	As outlined in section 3.9.3 of Volume 2, Chapter 3: Fish and shellfish ecology (APP-021), there is potential for herring to be present within or transiting through the Morgan Generation Assets and potential zone of impact from underwater sound. There is, therefore, the potential for LSE during the construction and decommissioning phases.
			EMF from subsea electrical cabling	No	As a pelagic species, herring generally swim well above the seabed and can be expected to rarely be exposed to the EMF at the lowest levels from undersea power cables buried in the seabed. This impact pathway is screened out.
		Salmon	Underwater sound impacting fish and shellfish receptors	Yes	As outlined in paragraphs 1.4.3.17 and 1.4.3.35 of HRA Stage 1 Screening Report (APP-099), there is potential for migratory species such as salmon to be present within, or transiting through, the Morgan Generation Assets and potential zone of impact from underwater sound. There is, therefore, the potential for LSE during the construction and decommissioning phases.

pRamsar site	Distance to the Morgan Generation Assets (km)	Species mentioned within the Information Sheets	Impact pathways	Taken through to HRA Stage 2	Justification
			EMF from subsea electrical cabling	Yes	As outlined in paragraph 1.4.3.29 of the HRA Stage 1 Screening Report (APP-099), EMF emitted from subsea electrical cabling has the potential to interfere with the navigation of migratory fish, such as salmon, that may be present within or transiting through the Morgan Generation Assets. There is, therefore, the potential for LSE during the operations and maintenance phase.
		Trout	Underwater sound impacting fish and shellfish receptors	Yes	As outlined in section 3.9.3 of Volume 2, Chapter 3: Fish and shellfish ecology (APP-021), there is potential for trout to be present within, or transiting through, the Morgan Generation Assets and potential zone of impact from underwater sound. There is, therefore, the potential for LSE during the construction and decommissioning phases.
			EMF from subsea electrical cabling	Yes	As outlined in section 3.9.6 of Volume 2, Chapter 3: Fish and shellfish ecology (APP-021), EMF emitted from subsea electrical cabling has the potential to interfere with the navigation of migratory fish, such as trout, that may be present within or transiting through the Morgan Generation Assets. There is, therefore, the potential for LSE during the operations and maintenance phase.

Marine mammals

1.4.2.4 As noted in paragraph 1.4.2.1, the next step within the HRA Stage 1 Screening (APP-099) was to examine the potential impact on these sites and species to determine if an LSE could be excluded.

1.4.2.5 Table 1.10 provides the result of the screening of impact pathways, which have the potential to result in an LSE on the pRamsar sites with marine mammal features (identified in section 1.3).

1.4.2.6 Table 1.10 concludes that LSE cannot be ruled out for the following four impact pathways: ‘underwater sound from piling’, ‘underwater sound from clearance of unexploded ordnance (UXO)’, ‘underwater sound during site investigation surveys’ and ‘underwater sound due to vessel use and other activities’.

Table 1.10: Initial screening of pRamsar sites for marine mammal species.

pRamsar site	Distance to the Morgan Generation Assets (km)	Species mentioned within the Information Sheets	Impact pathways	Taken through to HRA Stage 2	Justification
Gob ny Rona, Maughold Head and Port Cornaa	~25.5 km	Grey seal	Accidental pollution EMF Underwater sound from wind turbine operation Changes in prey availability Vessel collision risk Increased SSC and associated sediment deposition	No	For the reasons outlined in section 1.4.4 of the HRA Stage 1 Screening (APP-099), these impact pathways are screened out of further consideration.
			Underwater sound from piling	Yes	As outlined in paragraphs 1.4.4.6 to 1.4.4.19 of the HRA Stage 1 Screening Report (APP-099), there is potential for grey seal to be present within, or transiting through, the Morgan Generation Assets and potential zone of impact from underwater sound. There is, therefore, the potential for LSE during the construction phase.
			Underwater sound from clearance of UXO	Yes	
			Underwater sound during site investigation surveys	Yes	
			Underwater sound due to vessel use and other activities	Yes	As outlined in paragraphs 1.4.4.20 to 1.4.4.22 and paragraph 1.4.4.36 of the HRA Stage 1 Screening Report (APP-099), there is potential for grey seal to be present within, or transiting through, the Morgan Generation Assets and potential zone of impact from underwater sound from vessels. There is, therefore, the potential for LSE across all phases of the Morgan Generation Assets.

pRamsar site	Distance to the Morgan Generation Assets (km)	Species mentioned within the Information Sheets	Impact pathways	Taken through to HRA Stage 2	Justification
Southern Coasts and Calf of Man	~25.5 km	Grey seal	Accidental pollution; EMF Underwater sound from wind turbine operation Change in water clarity Changes in prey availability Vessel collision risk Increased SSC and associated sediment deposition	No	For the reasons outlined in section 1.4.5 of the HRA Stage 1 Screening (REP2-012), these impact pathways are screened out of further consideration.
			Underwater sound from piling	Yes	As outlined in paragraphs 1.4.4.6 to 1.4.4.19 of the HRA Stage 1 Screening Report (APP-099), there is potential for grey seal to be present within, or transiting through, the Morgan Generation Assets and potential zone of impact from underwater sound. There is, therefore, the potential for LSE during the construction phase.
			Underwater sound from clearance of UXO	Yes	
			Underwater sound during site investigation surveys	Yes	
			Underwater sound due to vessel use and other activities	Yes	As outlined in paragraphs 1.4.4.20 to 1.4.4.22 and paragraph 1.4.4.36 of the HRA Stage 1 Screening Report (APP-099), there is potential for grey seal to be present within, or transiting through, the Morgan Generation Assets and potential zone of impact from underwater sound from vessels. There is, therefore, the potential for LSE across all phases of the Morgan Generation Assets.

1.5 HRA Stage 2 – Appropriate Assessment

1.5.1 Gob ny Rona, Maughold Head and Port Cornaa

Morgan Generation Assets alone assessment

Fish

1.5.1.1 Section 1.4 identified the potential for LSEs on the salmon and trout features of the Gob ny Rona, Maughold Head and Port Cornaa pRamsar as a result of underwater sound and EMFs from subsea cabling.

1.5.1.2 This section presents the Stage 2 appropriate assessment for the fish features of this site. Table 1.11 highlights the relevant evidence from the EIA and HRA which has been used to inform an appropriate assessment for the pRamsar site.

Table 1.11: Information to support an appropriate assessment for the fish features of the Gob ny Rona, Maughold Head and Port Cornaa pRamsar site from the Morgan Generation Assets alone.

Species included on the Information Sheet	Conclusion
Salmon	Underwater sound impacting fish and shellfish receptors: the HRA Stage 2 Information to Support an Appropriate Assessment (ISAA), Part Two: SACs Assessments (APP-097) concluded that for European sites with salmon as a feature there was no risk of an AEoI as a result of underwater sound impacting salmon (see section 1.5.2, paragraph 1.5.2.2 to 1.5.2.75). This species is highly mobile and has a large migratory range relative to the ZoI of potential underwater sound impacts, therefore barrier effects would not occur. Also, the implementation of the Underwater Sound Management Strategy (UWSMS: S_D5_12) will act to further mitigate any potential impacts. EMF from subsea electrical cabling: the HRA Stage 2 ISAA, Part Two: SACs Assessments (APP-097) also concluded that for European sites with salmon as a feature, there was no risk of an AEoI as a result of EMF from subsea electrical cabling (see section 1.5.2, paragraph 1.5.2.76 to 1.5.2.137). **Conclusion**: Based on the evidence presented in the HRA Stage 2 ISAA, Part Two: SACs Assessments (APP-097), it is concluded that there is no AEoI of Gob ny Rona, Maughold Head and Port Cornaa pRamsar site as a result of the Morgan Generation Assets alone.
Trout	Underwater sound impacting fish and shellfish receptors: no significant effects were identified in section 3.9.3 of Volume 2, Chapter 3: Fish and shellfish ecology (APP-021) in relation to underwater sound impacting fish. On the basis of the evidence presented therein, it is concluded that there will be no AEoI of the pRamsar as a result of underwater sound impacting trout. This species is highly mobile and has a large migratory range relative to the ZoI of potential underwater sound impacts, therefore barrier effects would not occur. Also, the implementation of the Underwater Sound Management Strategy (UWSMS: S_D5_12) will act to further mitigate any potential impacts. EMF from subsea electrical cabling: no significant effects were identified in section 3.9.6 of Volume 2, Chapter 3: Fish and shellfish ecology (APP-021) in relation to EMF from subsea electrical cables. On the basis of the evidence presented therein, it is concluded that there will be no AEoI of the pRamsar as a result of EMF impacting trout. **Conclusion:** Based on the evidence presented in Volume 2, Chapter 3: Fish and shellfish ecology (APP-021), with no significant effects being identified for either of the impact pathways screened in (section 1.4), it is concluded that there is no AEoI of Gob ny Rona, Maughold Head and Port Cornaa pRamsar site as a result of the Morgan Generation Assets alone.

Marine mammals

1.5.1.3 Section 1.4 identified the potential for LSEs on the grey seal feature of the Gob ny Rona, Maughold Head and Port Cornaa pRamsar as a result of underwater sound.

1.5.1.4 This section presents the Stage 2 assessments for the grey seal feature of this site. Table 1.12 highlights the relevant evidence from the EIA and HRA which has been used to inform an appropriate assessment for the pRamsar site.

Table 1.12: Information to support an appropriate assessment for the marine mammal feature of the Gob ny Rona, Maughold Head and Port Cornaa pRamsar site from the Morgan Generation Assets alone.

Species included on the Information Sheet	Conclusion
Grey seal	Underwater sound: the HRA Stage 2 ISAA, Part Two: SACs Assessments (APP-097) concluded that for European sites with grey seal as a feature, there was no risk of an AEoI (see section 1.6.4), based on the mobility of this species and implementation of mitigation measures, as a result of the following impacts: • Injury and disturbance from underwater sound generated during piling (paragraphs 1.6.4.3 to 1.6.4.111 of the HRA Stage 2 ISAA, Part Two: SACs Assessments (APP-097) • Injury and disturbance from underwater sound generation from UXO detonation (paragraphs 1.6.4.112 to 1.6.4.202 of the HRA Stage 2 ISAA, Part Two: SACs Assessments (APP-097) • Injury and disturbance from underwater sound from pre-construction site investigation surveys (paragraphs 1.6.4.203 to 1.6.4.295 of the HRA Stage 2 ISAA, Part Two: SACs Assessments (APP-097) • Injury and disturbance to marine mammals from elevated underwater sound due to vessel use and other (non-piling) activities (paragraphs 1.6.4.296 to 1.6.4.469 of the HRA Stage 2 ISAA, Part Two: SACs Assessments (APP-097). **Conclusion:** Based on the evidence presented in the HRA Stage 2 ISAA, Part Two: SACs Assessments (APP-097), it is concluded that there is no AEoI of the Gob ny Rona, Maughold Head and Port Cornaa pRamsar site as a result of the Morgan Generation Assets alone.

In-combination assessment

Fish

1.5.1.5 Where the potential for LSE has been concluded for the Morgan Generation Assets alone, the potential for LSE has also been concluded in-combination. For effects discounted for LSE alone, there is either no pathway to effect, or the Morgan Generation Assets would result in only negligible or inconsequential effects that would not contribute (even collectively) materially to in-combination effects and therefore, no additional in-combination effects are identified (see Table 1.11).

1.5.1.6 The other developments (projects/plans) that could result in in-combination effects associated with the Morgan Generation Assets on fish features of the Gob ny Rona, Maughold Head and Port Cornaa pRamsar site have been summarised in Table 1.30 and shown in Figure 1.4 in the HRA Stage 2 ISAA, Part Two: SACs Assessments (APP-097).

1.5.1.7 Table 1.13 highlights the relevant evidence as presented in the EIA and HRA which has been used to inform an appropriate assessment for the pRamsar site for the Morgan Generation Assets in-combination with other plans/projects.

Table 1.13: Information to support an appropriate assessment for the fish features of the Gob ny Rona, Maughold Head and Port Cornaa pRamsar site from the Morgan Generation Assets in-combination with other plans and projects.

Species included on the Information Sheet	Conclusion
Salmon	Underwater sound impacting fish and shellfish receptors: the HRA Stage 2 ISAA, Part Two: SACs Assessments (APP-097) concluded that for European sites with salmon as a feature, there was no risk of an AEoI as a result of underwater sound effects on fish associated with the Morgan Generation Assets in-combination with other plans and projects (see section 1.5.3, paragraph 1.5.3.5 to 1.5.3.50). This species is highly mobile and has a large migratory range relative to the ZoI of potential underwater sound impacts, therefore, barrier effects would not occur. Also, the implementation of the Underwater Sound Management Strategy (UWSMS: S_D5_12) will act to further mitigate any potential impacts. EMF from subsea electrical cabling: the HRA Stage 2 ISAA, Part Two: SACs Assessments (APP-097) also concluded that for European sites with salmon as a feature, there was no AEoI as a result of EMF from subsea electrical cabling in-combination with other plans and projects (see section 1.5.3, paragraph 1.5.3.51 to 1.5.3.92). **Conclusion**: Based on the evidence presented in the HRA Stage 2 ISAA, Part Two: SACs Assessments (APP-097), it is concluded that there is no AEoI of the Gob ny Rona, Maughold Head and Port Cornaa pRamsar site as a result of the Morgan Generation Assets in-combination with other plans and projects.
Trout	Underwater sound impacting fish and shellfish receptors: no significant effects were identified in section 3.11.3 of Volume 2, Chapter 3: Fish and shellfish ecology (APP-021) in relation to cumulative underwater sound impacting on fish and shellfish receptors. On the basis of the evidence presented therein, it is concluded that there will be no AEoI of the pRamsar as a result of in-combination underwater sound impacting trout. This species is highly mobile and has a large migratory range relative to the ZoI of potential underwater sound impacts, therefore, barrier effects would not occur. Also, the implementation of the Underwater Sound Management Strategy (UWSMS: S_D5_12) will act to further mitigate any potential impacts. EMF from subsea electrical cabling: no significant effects were identified in section 3.11.6 of Volume 2, Chapter 3: Fish and shellfish ecology (APP-021) in relation to cumulative EMF effects from subsea electrical cabling. On the basis of the evidence presented therein, it is concluded that there will be no AEoI on the pRamsar as a result of in-combination EMF impacting trout. **Conclusion:** Based on the evidence presented in Volume 2, Chapter 3: Fish and shellfish ecology (APP-021), with no significant effects being identified for either of the impact pathways screened in (section 1.4), it is concluded that there is no AEoI of the Gob ny Rona, Maughold Head and Port Cornaa pRamsar site as a result of the Morgan Generation Assets acting in-combination with other plans and projects.

Marine mammals

1.5.1.8 Where the potential for LSE has been concluded alone, the potential for LSE has also been concluded in-combination. For effects discounted for LSE alone, there is either no pathway to effect or the Morgan Generation Assets would result in only negligible or inconsequential effects that would not contribute (even collectively) materially to in-combination effects and therefore, no additional in-combination effects are identified (see Table 1.11).

1.5.1.9 The other potential developments (projects and plans) that could result in in-combination effects associated with the Morgan Generation Assets on marine mammal features of the Gob ny Rona, Maughold Head and Port Cornaa pRamsar site

have been summarised in Table 1.125 and are shown in Figure 1.12 in the HRA Stage 2 ISAA, Part Two: SACs Assessments (APP-097).

1.5.1.10 Table 1.14 highlights the relevant evidence as presented in the EIA and HRA which has been used to inform an appropriate assessment for the pRamsar site for the Morgan Generation Assets in-combination with other plans and projects.

Table 1.14: Information to support an appropriate assessment for the marine mammal feature of the Gob ny Rona, Maughold Head and Port Cornaa pRamsar site from the Morgan Generation Assets in-combination with other plans and projects.

Species included on the Information Sheet	Conclusion
Grey seal	Underwater sound: the HRA Stage 2 ISAA, Part Two: SACs Assessments (APP-097) concluded that for sites with grey seal as a feature, there was no AEoI as a result of the Morgan Generation Assets acting in-combination with other plans and projects (see section 1.6.5), based on the mobility of this species and implementation of mitigation measures, for the following in-combination impact pathways: • Injury and disturbance from underwater sound generated during piling (paragraphs 1.6.5.6 to 1.6.5.130 of the HRA Stage 2 ISAA, Part Two: SACs Assessments (APP-097) • Injury and disturbance from underwater sound generation from UXO detonation (paragraph 1.6.5.131 to 1.6.5.241 of the HRA Stage 2 ISAA, Part Two: SACs Assessments (APP-097) • Injury and disturbance from underwater sound from pre-construction site investigation surveys (paragraph 1.6.5.242 to 1.6.5.321 of the HRA Stage 2 ISAA, Part Two: SACs Assessments (APP-097) • Injury and disturbance to marine mammals from elevated underwater sound due to vessel use and other (non-piling) activities (paragraph 1.6.5.322 to 1.6.5.511 of the HRA Stage 2 ISAA, Part Two: SACs Assessments (APP-097). **Conclusion:** Based on the evidence presented in the HRA Stage 2 ISAA, Part Two: SACs Assessments (APP-097) it is concluded that there is no AEoI of the Gob ny Rona, Maughold Head and Port Cornaa pRamsar site as a result of the Morgan Generation Assets acting in-combination with other plans and projects.

1.5.2 Southern Coasts and Calf of Man

Morgan Generation Assets alone assessment

Fish

1.5.2.1 Section 1.4 identified the potential for LSEs on the basking shark and plaice features of the Southern Coasts and Calf of Man pRamsar as a result of underwater sound and EMFs from subsea cabling.

1.5.2.2 This section presents the Stage 2 appropriate assessment for the fish features of this site. Table 1.15 highlights the relevant evidence from the EIA which has been used to inform an appropriate assessment for the pRamsar site.

Table 1.15: Information to support an appropriate assessment for the fish features of the Southern Coasts and Calf of Man pRamsar site from the Morgan Generation Assets alone.

Species included on the Information Sheet	Conclusion
Basking shark	Underwater sound impacting fish and shellfish receptors: no significant effects were identified in section 3.9.3 of Volume 2, Chapter 3: Fish and shellfish ecology (APP-021) in relation to underwater sound impacting basking shark. On the basis of the evidence presented therein, it is concluded that there will be no AEoI of the pRamsar as a result of underwater sound impacting basking shark. EMF from subsea electrical cabling: no significant effects were identified in section 3.9.6 of Volume 2, Chapter 3: Fish and shellfish ecology (APP-021) in relation to EMF from subsea electrical cables. On the basis of the evidence presented therein, it is concluded that there will be no AEoI of the pRamsar as a result of EMF impacting basking shark. **Conclusion:** Based on the evidence presented in Volume 2, Chapter 3: Fish and shellfish ecology (APP-021), with no significant effects being identified for either of the impact pathways screened in (section 1.4), it is concluded that there is no AEoI of the Southern Coasts and Calf of Man pRamsar site as a result of the Morgan Generation Assets alone.
Plaice	Underwater sound impacting fish and shellfish receptors: no significant effects were identified in section 3.9.3 of Volume 2, Chapter 3: Fish and shellfish ecology (APP-021) in relation to underwater sound impacting plaice. On the basis of the evidence presented therein, it is concluded that there will be no AEoI of the pRamsar as a result of underwater sound impacting plaice. EMF from subsea electrical cabling: no significant effects were identified in section 3.9.6 of Volume 2, Chapter 3: Fish and shellfish ecology (APP-021) in relation to EMF from subsea electrical cables. On the basis of the evidence presented therein, it is concluded that there will be no AEoI of the pRamsar as a result of EMF impacting plaice. **Conclusion:** Based on the evidence presented in Volume 2, Chapter 3: Fish and shellfish ecology (APP-021), with no significant effects being identified for either of the impact pathways screened in (section 1.4), it is concluded that there is no AEoI of the Southern Coasts and Calf of Man pRamsar site as a result of the Morgan Generation Assets alone.

Marine mammals

1.5.2.3 Section 1.4 identified the potential for LSEs on the grey seal feature of the Southern Coasts and Calf of Man pRamsar as a result of underwater sound.

1.5.2.4 This section presents the Stage 2 appropriate assessment for the grey seal feature of this site. Table 1.16 highlights the relevant evidence from the EIA and HRA which has been used to inform an appropriate assessment for the pRamsar site.

Table 1.16: Information to support an appropriate assessment for the marine mammal feature of the Southern Coasts and Calf of Man pRamsar site from the Morgan Generation Assets acting alone.

Species included on the Information Sheet	Conclusion
Grey seal	Underwater sound: the HRA Stage 2 ISAA, Part Two: SACs Assessments (APP-097) concluded that for European sites with grey seal as a feature, there was no risk of an AEoI (see section 1.6.4), based on the mobility of this species and implementation of mitigation measures, as a result of the following impacts: • Injury and disturbance from underwater sound generated during piling (paragraphs 1.6.4.3 to 1.6.4.111 of the HRA Stage 2 ISAA, Part Two: SACs Assessments (APP-097) • Injury and disturbance from underwater sound generation from UXO detonation (paragraphs 1.6.4.112 to 1.6.4.202 of the HRA Stage 2 ISAA, Part Two: SACs Assessments (APP-097) • Injury and disturbance from underwater sound from pre-construction site investigation surveys (paragraphs 1.6.4.203 to 1.6.4.295 of the HRA Stage 2 ISAA, Part Two: SACs Assessments (APP-097) • Injury and disturbance to marine mammals from elevated underwater sound due to vessel use and other (non-piling) activities (paragraphs 1.6.4.296 to 1.6.4.469 of the HRA Stage 2 ISAA, Part Two: SACs Assessments (APP-097). **Conclusion:** Based on the evidence presented in the HRA Stage 2 ISAA, Part Two: SACs Assessments (APP-097) it is concluded that there is no AEoI of the Southern Coasts and Calf of Man pRamsar site as a result of the Morgan Generation Assets alone.

In-combination assessment

Fish

1.5.2.5 Where the potential for LSE has been concluded alone, the potential for LSE has also been concluded in-combination. For effects discounted for LSE alone, there is either no pathway to effect, or the Morgan Generation Assets would result in only negligible or inconsequential effects that would not contribute (even collectively) materially to in-combination effects and therefore, no additional in-combination effects are identified (see Table 1.15).

1.5.2.6 The other developments (projects/plans) that could result in in-combination effects associated with the Morgan Generation Assets on the fish features of the Southern Coasts and Calf of Man pRamsar site have been summarised in Table 1.30 and shown in Figure 1.4 in the HRA Stage 2 ISAA, Part Two: SACs Assessments (APP-097).

1.5.2.7 Table 1.17 highlights the relevant evidence as presented in the EIA which has been used to inform an appropriate assessment for the pRamsar site for Morgan Generation Assets in-combination with other plans and projects.

Table 1.17: Information to support an appropriate assessment for the fish features of the Southern Coasts and Calf of Man pRamsar site from the Morgan Generation Assets acting in-combination with other plans and projects.

Species included on the Information Sheet	Conclusion
Basking shark	Underwater sound impacting fish and shellfish receptors: no significant effects were identified in section 3.11.3 of Volume 2, Chapter 3: Fish and shellfish ecology (APP-021) in relation to cumulative underwater sound impacting on fish and shellfish receptors. On the basis of the evidence presented therein, it is concluded that there will be no AEoI of the pRamsar as a result of in-combination underwater sound impacting basking shark. EMF from subsea electrical cabling: no significant effects were identified in section 3.11.6 of Volume 2, Chapter 3: Fish and shellfish ecology (APP-021) in relation to cumulative EMF effects from subsea electrical cabling. On the basis of the evidence presented therein, it is concluded that there will be no AEoI of the pRamsar as a result of in-combination EMF impacting basking shark. **Conclusion:** Based on the evidence presented in Volume 2, Chapter 3: Fish and shellfish ecology (APP-021), with no significant effects being identified for either of the impact pathways screened in (section 1.4), it is concluded that there is no AEoI of the Southern Coasts and Calf of Man pRamsar site as a result of the Morgan Generation Assets in-combination with other plans and projects.
Plaice	Underwater sound impacting fish and shellfish receptors: no significant effects were identified in section 3.11.3 of Volume 2, Chapter 3: Fish and shellfish ecology (APP-021) in relation to cumulative underwater sound impacting on fish and shellfish receptors. On the basis of the evidence presented therein, it is concluded that there will be no AEoI of the pRamsar as a result of in-combination underwater sound impacting plaice. EMF from subsea electrical cabling: no significant effects were identified in section 3.11.6 of Volume 2, Chapter 3: Fish and shellfish ecology (APP-021) in relation to cumulative EMF effects from subsea electrical cabling. On the basis of the evidence presented therein, it is concluded that there will be no AEoI of the pRamsar as a result of in-combination EMF impacting plaice. **Conclusion:** Based on the evidence presented in Volume 2, Chapter 3: Fish and shellfish ecology (APP-021), with no significant effects being identified for either of the impact pathways screened in (section 1.4), it is concluded that there is no AEoI of the Southern Coasts and Calf of Man pRamsar site as a result of the Morgan Generation Assets in-combination with other plans and projects.

Marine mammals

1.5.2.8 Where the potential for LSE has been concluded alone, the potential for LSE has also been concluded in-combination. For effects discounted for LSE alone, there is either no pathway to effect or the Morgan Generation Assets would result in only negligible or inconsequential effects that would not contribute (even collectively) materially to in-combination effects and therefore, no additional in-combination effects are identified (see Table 1.5).

1.5.2.9 The other developments (projects and plans) that could result in in-combination effects associated with the Morgan Generation Assets on the marine mammal feature of the Southern Coasts and Calf of Man pRamsar site have been summarised in Table 1.125 and are shown in Figure 1.12 in the HRA Stage 2 ISAA, Part Two: SACs Assessments (APP-097).

1.5.2.10 Table 1.18 highlights the relevant evidence as presented in the HRA which has been used to inform an appropriate assessment for the pRamsar site for Morgan Generation Assets in-combination with other plans and projects.

Table 1.18: Information to support an appropriate assessment for the marine mammal feature of the Southern Coasts and Calf of Man pRamsar site from the Morgan Generation Assets acting in-combination with other plans and projects.

Species included on the Information Sheet	Conclusion
Grey seal	Underwater sound: the HRA Stage 2 ISAA, Part Two: SACs Assessments (APP-097) concluded that for sites with grey seal as a feature, there was no AEoI as a result of the Morgan Generation Assets in-combination with other plans and projects (see section 1.6.5), based on the mobility of this species and implementation of mitigation measures, for the following in-combination impact pathways: • Injury and disturbance from underwater sound generated during piling (paragraphs 1.6.5.6 to 1.6.5.130 of the HRA Stage 2 ISAA, Part Two: SACs Assessments (APP-097) • Injury and disturbance from underwater sound generation from UXO detonation (paragraph 1.6.5.131 to 1.6.5.241 of the HRA Stage 2 ISAA, Part Two: SACs Assessments (APP-097) • Injury and disturbance from underwater sound from pre-construction site investigation surveys (paragraph 1.6.5.242 to 1.6.5.321 of the HRA Stage 2 ISAA, Part Two: SACs Assessments (APP-097) • Injury and disturbance to marine mammals from elevated underwater sound due to vessel use and other (non-piling) activities (paragraph 1.6.5.322 to 1.6.5.511 of the HRA Stage 2 ISAA, Part Two: SACs Assessments (APP-097). **Conclusion:** Based on the evidence presented in the HRA Stage 2 ISAA, Part Two: SACs Assessments (APP-097), it is concluded that there is no AEoI of the Southern Coasts and Calf of Man pRamsar site as a result of the Morgan Generation Assets in-combination with other plans and projects.

1.5.3 The Ayres

Morgan Generation Assets alone assessment

Fish

1.5.3.1 Section 1.4 identified the potential for LSEs on the herring, salmon and trout features of The Ayres pRamsar site as a result of underwater sound and EMFs from subsea cabling.

1.5.3.2 This section presents the Stage 2 appropriate assessments for the fish features of this site. Table 1.19 highlights the relevant evidence from the EIA and HRA which has been used to inform an appropriate assessment for the pRamsar site.

Table 1.19: Information to support an appropriate assessment for the fish features of The Ayres pRamsar site from the Morgan Generation Assets acting alone.

Species included on the Information Sheet	Conclusion
Herring	Underwater sound impacting fish and shellfish receptors: no significant effects were identified in section 3.9.3 of Volume 2, Chapter 3: Fish and shellfish ecology (APP-021) in relation to underwater sound impacting fish. For herring, specific mitigation to ensure no significant effects on this species has been set out and committed to in the Outline Underwater Sound Management Strategy (UWSMS; S_D5_12) On the basis of the evidence presented therein, it is concluded that there will be no AEoI of the pRamsar as a result of underwater sound impacting herring. **Conclusion**: Based on the evidence presented in the Volume 2, Chapter 3: Fish and shellfish ecology (APP-021) it is concluded that there is no AEoI of The Ayres pRamsar site as a result of the Morgan Generation Assets alone.
Salmon	Underwater sound impacting fish and shellfish receptors: the HRA Stage 2 Information to Support an Appropriate Assessment (ISAA), Part Two: SACs Assessments (APP-097) concluded that for European sites with salmon as a feature there was no risk of an AEoI as a result of underwater sound impacting salmon (see section 1.5.2, paragraph 1.5.2.2 to 1.5.3.75). This species is highly mobile and has a large migratory range relative to the ZoI of potential underwater sound impacts, therefore, barrier effects would not occur. Also, the implementation of the Underwater Sound Management Strategy (UWSMS: S_D5_12) will act to further mitigate any potential impacts. EMF from subsea electrical cabling: the HRA Stage 2 ISAA, Part Two: SACs Assessments (APP-097) also concluded that for European sites with salmon as a feature, there was no risk of an AEoI as a result of EMF from subsea electrical cabling (see section 1.5.2, paragraph 1.5.2.76 to 1.5.2.137). **Conclusion**: Based on the evidence presented in the HRA Stage 2 ISAA, Part Two: SACs Assessments (APP-097), it is concluded that there is no AEoI of The Ayres pRamsar site as a result of the Morgan Generation Assets alone.
Trout	Underwater sound impacting fish and shellfish receptors: no significant effects were identified in section 3.9.3 of Volume 2, Chapter 3: Fish and shellfish ecology (APP-021) in relation to underwater sound impacting fish. On the basis of the evidence presented therein, it is concluded that there will be no AEoI of the pRamsar as a result of underwater sound impacting trout. This species is highly mobile and has a large migratory range relative to the ZoI of potential underwater sound impacts, therefore, barrier effects would not occur. Also, the implementation of the Underwater Sound Management Strategy (UWSMS: S_D5_12) will act to further mitigate any potential impacts. EMF from subsea electrical cabling: no significant effects were identified in section 3.9.6 of Volume 2, Chapter 3: Fish and shellfish ecology (APP-021) in relation to EMF from subsea electrical cables. On the basis of the evidence presented therein, it is concluded that there will be no AEoI of the pRamsar as a result of EMF impacting trout. **Conclusion:** Based on the evidence presented in Volume 2, Chapter 3: Fish and shellfish ecology (APP-021), with no significant effects being identified for either of the impact pathways screened in (section 1.4), it is concluded that there is no AEoI of The Ayres pRamsar site as a result of the Morgan Generation Assets alone.

In-combination assessment

Fish

1.5.3.3 Where the potential for LSE has been concluded alone, the potential for LSE has also been concluded in-combination. For effects discounted for LSE alone, there is either no pathway to effect, or the Morgan Generation Assets would result in only negligible or inconsequential effects that would not contribute (even collectively) materially to in-

combination effects and therefore, no additional in-combination effects are identified (see Table 1.20, Table 1.19).

1.5.3.4 The other developments (projects/plans) that could result in in-combination effects associated with the Morgan Generation Assets on fish features of The Ayres pRamsar site have been summarised in Table 1.30 and shown in Figure 1.4 in the HRA Stage 2 ISAA, Part Two: SACs Assessments (APP-097).

1.5.3.5 Table 1.20 highlights the relevant evidence as presented in the EIA and HRA which has been used to inform an appropriate assessment for the pRamsar site for Morgan Generation Assets in-combination with other plans and projects.

Table 1.20: Information to support an appropriate assessment for the fish features of The Ayres pRamsar site from the Morgan Generation Assets in-combination with other plans and projects.

Species included on the Information Sheet	Conclusion
Herring	Underwater sound impacting fish and shellfish receptors: no significant effects were identified in section 3.11.3 of Volume 2, Chapter 3: Fish and shellfish ecology (APP-021) in relation to cumulative underwater sound impacting on fish and shellfish receptors. As set out above, for herring, specific mitigation to ensure no significant effects on this species (for the project alone and in-combination) has been set out and committed to in the Outline Underwater Sound Management Strategy (UWSMS; S_D5_12). On the basis of the evidence presented therein, it is concluded that there will be no AEoI of the pRamsar as a result of in-combination underwater sound impacting herring. EMF from subsea electrical cabling: no significant effects were identified in section 3.11.6 of Volume 2, Chapter 3: Fish and shellfish ecology (APP-021) in relation to cumulative EMF effects from subsea electrical cabling. On the basis of the evidence presented therein, it is concluded that there will be no AEoI of the pRamsar as a result of in-combination EMF impacting herring. **Conclusion:** Based on the evidence presented in Volume 2, Chapter 3: Fish and shellfish ecology (APP-021), with no significant effects being identified for either of the impact pathways screened in (section 1.4), it is concluded that there is no AEoI of The Ayres pRamsar site as a result of the Morgan Generation Assets in-combination with other plans and projects.
Salmon	Underwater sound impacting fish and shellfish receptors: the HRA Stage 2 ISAA, Part Two: SACs Assessments (APP-097) concluded that for European sites with salmon as a feature, there was no risk of an AEoI as a result of underwater sound effects on fish associated with the Morgan Generation Assets acting in-combination with other plans and projects (see section 1.5.3, paragraph 1.5.3.5 to 1.5.3.50). This species is highly mobile and has a large migratory range relative to the ZoI of potential underwater sound impacts, therefore, barrier effects would not occur. Also, the implementation of the Underwater Sound Management Strategy (UWSMS: S_D5_12) will act to further mitigate any potential impacts. EMF from subsea electrical cabling: the HRA Stage 2 ISAA, Part Two: SACs Assessments (APP-097) also concluded that for European sites with salmon as a feature there was no AEoI as a result of EMF from subsea electrical cabling in-combination with other plans and projects (see section 1.5.3, paragraph 1.5.3.51 to 1.5.3.92). **Conclusion**: Based on the evidence presented in the HRA Stage 2 ISAA, Part Two: SACs Assessments (APP-097) it is concluded that there is no AEoI of The Ayres pRamsar site as a result of the Morgan Generation Assets in-combination with other plans and projects.
Trout	Underwater sound impacting fish and shellfish receptors: no significant effects were identified in section 3.11.3 of Volume 2, Chapter 3: Fish and

Species included on the Information Sheet	Conclusion
	shellfish ecology (APP-021) in relation to cumulative underwater sound impacting on fish and shellfish receptors. On the basis of the evidence presented therein, it is concluded that there will be no AEoI of the pRamsar as a result of in-combination underwater sound impacting trout. This species is highly mobile and has a large migratory range relative to the ZoI of potential underwater sound impacts, which is expected to prevent barrier effects from occurring. Also, the implementation of the Underwater Sound Management Strategy (UWSMS: S_D5_12) will act to further mitigate any potential impacts. EMF from subsea electrical cabling: no significant effects were identified in section 3.11.6 of Volume 2, Chapter 3: Fish and shellfish ecology (APP-021) in relation to cumulative EMF effects from subsea electrical cabling. On the basis of the evidence presented therein, it is concluded that there will be no AEoI of the pRamsar as a result of in-combination EMF impacting trout. **Conclusion:** Based on the evidence presented in Volume 2, Chapter 3: Fish and shellfish ecology (APP-021), with no significant effects being identified for either of the impact pathways screened in (section 1.4), it is concluded that there is no AEoI of The Ayres pRamsar site as a result of the Morgan Generation Assets in-combination with other plans and projects.

1.6 Conclusions

1.6.1.1 As outlined in paragraph 1.1.1.3, the information presented in this note has been provided to support an appropriate assessment should one be required to be undertaken by the Competent Authority for the five non-ornithological features of the pRamsar sites on the Isle of Man. The Applicant notes that this information has not been requested pre-application or post-application by any stakeholder or Interested Party in the Morgan Generation Assets Examination. All relevant habitats and species have been assessed previously as part of the IoM MNRs in Volume 2, Chapter 2: Benthic subtidal ecology (APP-020), Volume 2, Chapter 3: Fish and shellfish ecology (APP-021), and Volume 2, Chapter 4: Marine mammals (S_D5_11 Marine mammals F03).

1.6.1.2 This assessment of non-ornithological features of the Isle of Man pRamsar sites has considered the potential for LSE on marine habitats, fish/shellfish and marine mammal features of these sites.

1.6.1.3 The HRA Stage 1 screening (see section 1.4) concluded that no sites with habitat features were required to be taken forward for further assessment as all habitat features are located beyond the 15 km ZoI of the Morgan Generation Assets. The potential for LSE was identified for three pRamsar sites with fish and marine mammal features (Gob ny Rona, Maughold Head and Port Cornaa pRamsar, Southern Coasts and Calf of Man pRamsar and The Ayres pRamsar) which were taken forward to appropriate assessment in section 1.5.

1.6.1.4 Based on the evidence presented in Volume 2, Chapter 2: Benthic subtidal ecology (APP-020), Volume 2, Chapter 3: Fish and shellfish ecology (APP-021), Volume 2, Chapter 4: Marine mammals (S_D5_11 Marine mammals F03), and HRA Stage 2 ISAA, Part Two: SACs Assessments (APP-097), it was concluded that for all features of all sites taken forward for full assessment, no AEoI is predicted as a result of the Morgan Generation Assets alone or in-combination with other plans and projects.

1.7 References

DAFF (2008) Guidelines for the selection of biological Areas of Special Scientific Interest (ASSIs) on the Isle of Man, Volume 1 and 2.

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NatureScot (2018) Interim Guidance on apportioning impacts from marine renewable developments to breeding seabird populations in SPAs. Available at: [redacted]. Accessed: January 2025.

UK Overseas Territories Conservation Forum (2005a) Review of existing and proposed Ramsar sites in UK Overseas Territories and Crown Dependencies. Available at: [redacted] Accessed: January 2025.

UK Overseas Territories Conservation Forum (2005b) Review of Isle of Man proposed Ramsar sites. Available at: [redacted] Accessed: January 2025.

Appendix A: Location of pRamsar sites

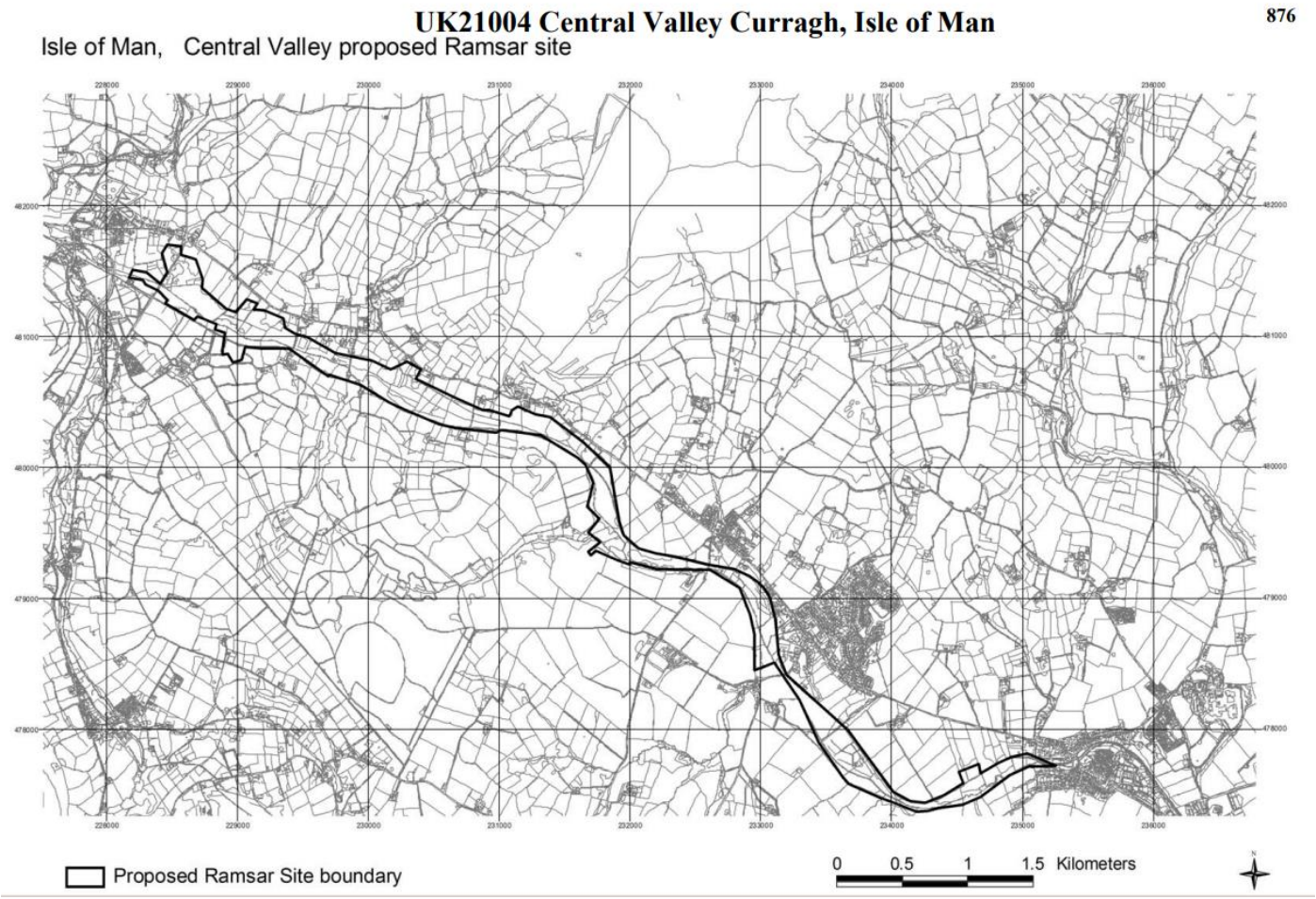

Figure 1.1: Central Valley Curragh pRamsar site.

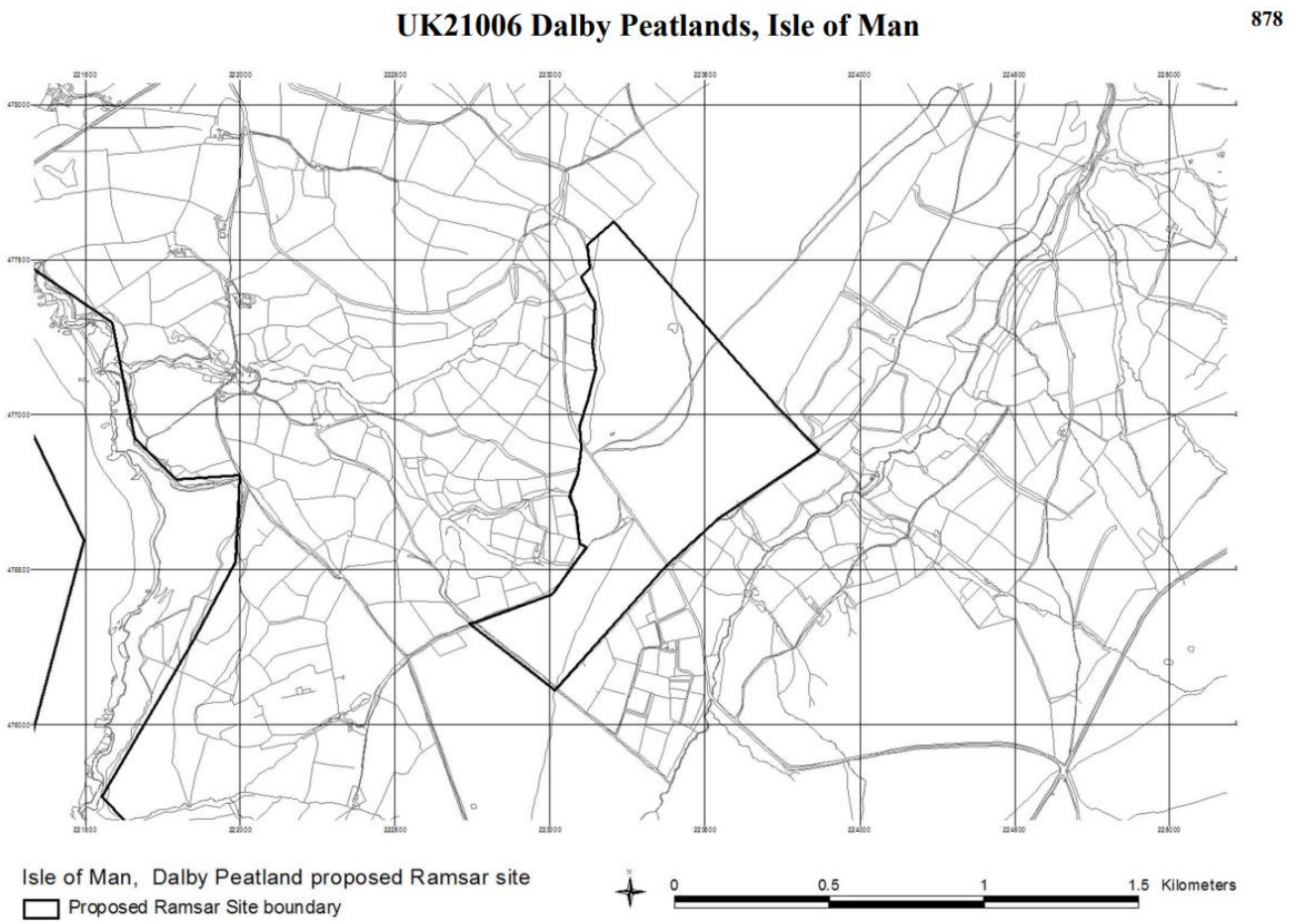

Figure 1.2: Dalby Peatlands pRamsar site.

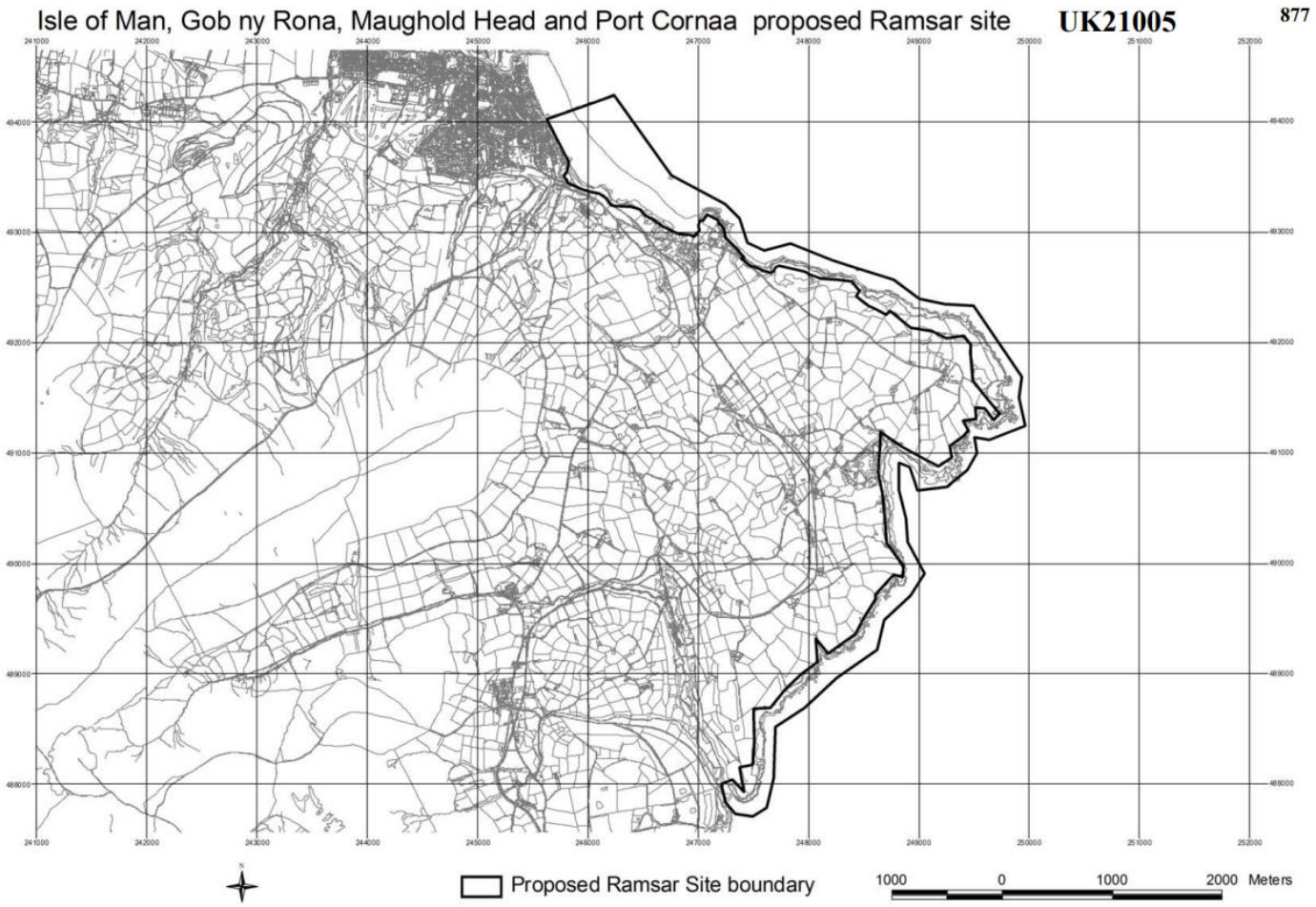

Figure 1.3: Gob ny Rona, Maughold Head and Port Cornaa pRamsar site.

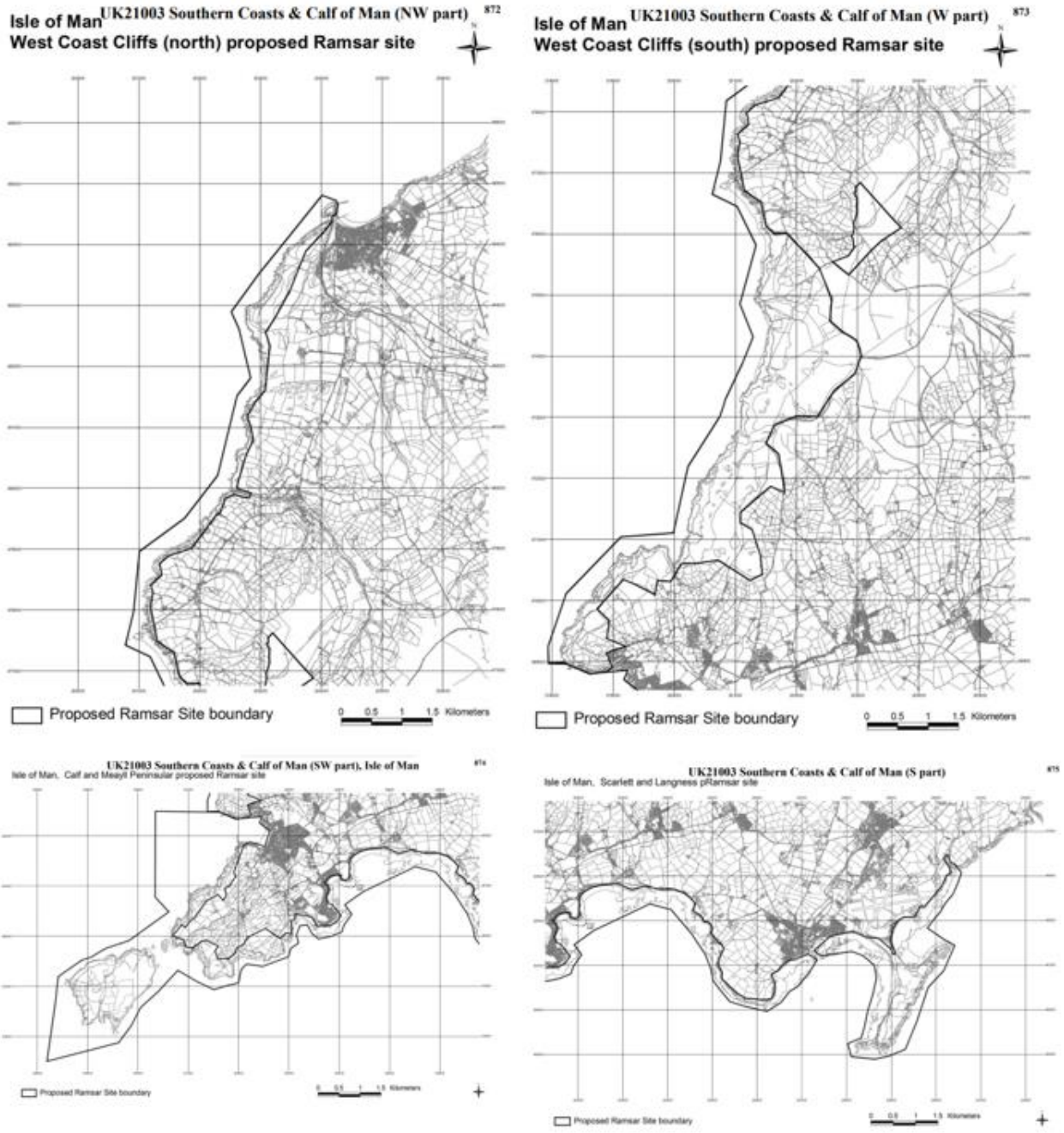

Figure 1.4: Southern Coasts and Calf of Man pRamsar site (multiple parts).

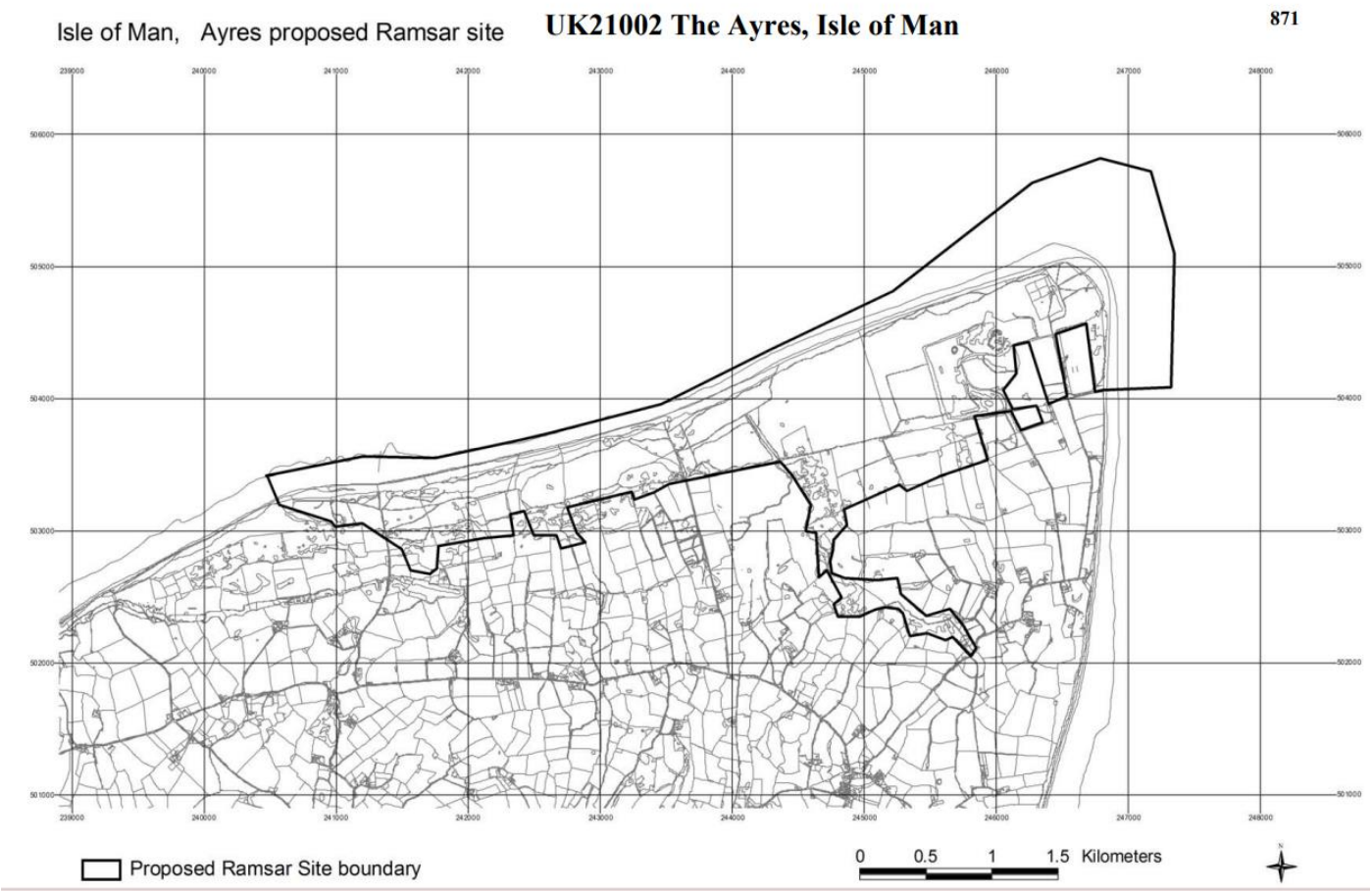

Figure 1.5: The Ayres pRamsar site.