

Morecambe Bay Generation Assets PEIR Consultation:

Detailed analysis of PEIR with specific comments from respective Departments: (Highlighted sections identify particular areas of text which have been considered further). Should you require any further clarification on any of these sections, please do not hesitate to contact us.

Chapter 10 Fish and Shellfish Ecology

MMO 3.4.1 – The report appears to separate spawning and nursery grounds, but doesn't acknowledge transboundary effects. There is limited purpose in protecting spawning only to kill them during the nursery phase, or vice versa. While the species may be assessed at the population level, are they assessed at lifecycle level? (eg. section 10.52 – distributions of fish and shellfish is independent of national boundaries – as are their lifecycle stages))

Other work has indicated connectivities between life cycle stages, spawning grounds and nursery grounds, or fishing grounds – thereby requiring a linked assessment, ie, can't consider the life stages in isolation, and so the assessment must look at each stage and consider where the highest risk arises. For example, Neil et al 2008 ([http://sustainable-fisheries-
iom.bangor.ac.uk/documents/government-reports/scallop/2008/BangorFisheriesReport_No3.pdf](http://sustainable-fisheries-iom.bangor.ac.uk/documents/government-reports/scallop/2008/BangorFisheriesReport_No3.pdf)) showed connectivity between south and north areas within the eastern Irish sea- spawning connections with nursery areas. How has connectivity across the area, with respect to life cycle stages and impacts been assessed?

As per MMO advice (pg. 19 Table – MMO ref – 3.4.18) - recommends contacting AFBI - has this been done? It indicates that the data obtained, but given their expertise, has the project and conclusions been discussed with them? There are only 6 references to AFBI, and none specific to expert advice.

Pg . 55 - 10.55 – notes that no transboundary effects expected for noise affecting IoM waters, which is the approach adopted for other developments. However, none of them are in the vicinity and they are older projects. How does that rationale enable progression of data and improved understanding of impacts?

10.4.2.2 Do you need to include, or acknowledge the relevant Isle of Man policy and legislation given the acknowledgement of potential transboundary effects on species which are protected/managed in Manx waters, including the existence of designated conservation areas? (see also comment on MCZ Assessment Report).

Pg.48 Table 10.5:

noting that Manx Basking Shark Watch has now transferred its public sightings database responsibilities to the Manx Whale and Dolphin watch:

<https://www.mwdw.net/>

<https://www.mwdw.net/history-of-manx-basking-shark-watch/>

And also that the Isle of Man has its own NBN Atlas website: <https://isleofman.nbnatlas.org/>. This should be linked to the main NBN Atlas, and therefore should be the same, however, it may be worth checking, and noting.

10.37, as noted above - spawning and nursery grounds are both assessed; are they considered linked or separately? Could this make a difference in the eventual impact on the species, either in the short or long term?

10.54 sound effect on herring (spawning aggregations) up to 47 km away, but what effect does it have on larvae or eggs already spawned? The assessment seem to consider only the adults as the receptors, but the impact may be on the eggs and larvae.

10.55, it is not clear how examples from the North sea are relevant as to whether or not transboundary effects in relation to the IOM should be included. Surely the regional circumstances of each windfarm determines this, not how previous developments have treated it? That is, these examples are not valid justifications for specific assessment, or otherwise, of transboundary effects for Morecambe proposal and the Isle of Man. The decision should be based upon consideration of evidence, assessment and consultation.

10.63 and 10.68 It's not clear why herring nursery grounds are not mentioned in relation to the array site – Figure 10.3c clearly shown the site covers an area of high intensity herring nursery ground. There is acknowledgement of the spawning grounds further away in Manx waters, but the connectivity between the two areas appears not to be acknowledged in the assessment. It appears that the emphasis is on the distance away from the site for spawning, but no recognition of the site being on a nursery ground.

Can't consider the noise impact on spawning aggregations and spawning in Manx waters, without making the same assessment of the larvae when they hatch and drift to the NE and SE towards the array area. There's little point in protecting one part of the life cycle somewhere, but kill them later at a different life cycle stage.

As above, noting that Table 10.2 acknowledges the nursery ground on site, but not necessarily the connectivity?

10.5.4

Again, there is no sense of connectivity between the spawning and nursery grounds for herring in this section. There is reference to the larval distribution, and also acknowledgement of the array site being a high intensity nursery ground- so what's the connection between larval distribution and the nursery ground – they must originate as larvae and end up on the nursery ground. It feel like there is a disconnect.

Suggest specific consultation with AFBI in relation to the interaction of herring spawning and nursery grounds in the eastern Irish Sea, and the validity of the conclusions drawn.

10.64 and 10.86 Basking shark are also protected under the Wildlife Act 1990 of the Isle of Man. The Isle of Man is also signatory to both CITES and the Bern Convention.

Table 10.11 does anyone actually fish *Nucella lapillus*? It's predominantly a littoral species. Also, should be *Homarus gammarus*

10.5.10 Does not appear to include the Isle of Man designated sites, under the Wildlife Act 1990. Several have relevant designation features to this chapter. See:

<https://www.gov.im/media/1378920/designation-of-marine-nature-reserves-guidance-note.pdf>

Table 10.17

Please clarify why herring spawning (and larval distributions – as shown on Plate 10.1) – would not be considered as a receptor when they have a specific sensitivity to underwater noise, and sound levels would extend to those areas?

10.121 Herring as a high sensitivity species, and with a high intensity nursery ground on the array site does not seem to justify a negligible impact. Sound energy from the construction phase on a high intensity nursery ground would presumably have a potentially significant impact on the animals on site, and for some distance around – so it's not potentially short term or reversible for the cohort affected by the noise, which has the potential to affect a considerable area of the high intensity nursery ground. Has the effect been modelled or is just assumed to be negligible? If not actually estimated, should it not be taken forward for further assessment and specific monitoring in case the data-limited assumption is incorrect?

Has AFBI concurred with this conclusion?

10.204-10.211 Given the amount of uncertainty associated with this receptor, why not undertake some empirical monitoring, rather than assuming effects and excluding from EIA?

Negligible/minor adverse and no monitoring – how will the assumptions be verified?

Table 10.38 and 10.362

Has Ørsted Isle of Man offshore windfarm been considered?

Conclusion at this section noted and agreed.

10.11 Potential Monitoring Requirements

Negligible/minor adverse and no monitoring – how will the assumptions and conclusion be verified?

How does this development contribute to the increase in evidence and information in this particular regional and specific set of circumstances?

Chapter 11 Marine Mammals

Appendix 11.2 Marine Mammal Information and survey data

Comments made here may also apply to PEIR.

1.2. Policy Legislation and Guidance

As a signatory to the **CBD**, the Isle of Man's Biodiversity Strategy outlines its commitments to species and habitats: <https://www.gov.im/media/1346374/biodiversity-strategy-2015-final-version.pdf>

Table 1.2 **ASCOBANS** (and the **Bonn Convention**) has also been extended to the Isle of Man (via the UK), ie. IoM is also a signatory.

Similarly IoM is signatory to the **Bern** and **Bonn Conventions**, **OSPAR**, **CITES** and **CBD** – all extended via the UK. (It should be Bern Convention rather than Berne, which relates to authorship rights).

For full details of IoM participation in multilateral conventions and treaties see: Appendix B, pg. 44 of the Isle of Man Biodiversity Strategy: <https://www.gov.im/media/1346374/biodiversity-strategy-2015-final-version.pdf>

Table 1.2 The IoM Wildlife Act 1990 also establishes the legal protection of Marine Nature Reserves (under Sections 32 and 33), as well as NNRs and ASSIs.

1.2.4. European Protected Species guidance

Noting this relates to EPS. The Isle of Man, as a non/never-EU member state, but with its own relevant legislation (as outlined in Table 1.2), it is requested that the equivalent description of legislative scope for marine mammals is indicated for IoM, if only to indicate that **equivalent protection for these species extends across the Irish Sea region**, and therefore equivalent consideration in respective territorial waters is justified. For example see Table 11.5 **NPS assessment requirements (PEIR)** - marine mammals are **legally protected species** in Manx waters and must therefore be indicated and considered as equivalent under UK legislation.

This could easily be included under 1.2.6.

1.2.5 Applicable to the IoM

1.31 – there are ten marine nature reserves.

See: <https://www.gov.im/mnr>.

For the designation features of each, including marine mammals see:

<https://www.gov.im/media/1378920/designation-of-marine-nature-reserves-guidance-note.pdf>

1.55 See also Manx Marine Environmental Assessment: <https://www.gov.im/about-the-government/departments/infrastructure/harbours-information/territorial-seas/manx-marine-environmental-assessment/>

And chapter 3.4 a, b :

<https://www.gov.im/media/1363399/ch-34a-cetaceans.pdf>

<https://www.gov.im/media/1363400/ch-34b-seals.pdf>

1.87 Is 2018 the most recent data available? Suggest contact MWDW for updates.

1.47 Grey seals. There is limited reference to grey seals in Manx waters, where a regionally important population is found.

Details, including annual survey data can be found here,
<https://www.gov.im/media/1363400/ch-34b-seals.pdf>
<https://www.mwt.im/terrestrial/calf-man-bird-observatory> - Calf Seal Survey

and by contacting the Manx Wildlife Trust directly.

Table 1.7 the Manx population estimate of grey seals is thought to be around 400 animals.

COMMENTS ON PEIR

Table 11.2 Realistic Worst case scenario Table: Impact 9 - Impact sites for grey seals should include Isle of Man.

See: <https://www.mwt.im/sites/default/files/2023-03/Calf%20Seal%20Report%202021.pdf>
<https://www.mwt.im/terrestrial/calf-man-bird-observatory> for other year reports.

Noting that Table 11.5 **NPS assessment requirements** indicates inclusion of 'known birthing/haul out areas, nursery grounds..' etc. – which therefore should include IoM sites, unless there is a distance limitation? Currently only appears to include Dee estuary and South Walney?

Table 11.8 – no Manx data sources included? There appear to be references to several.

11.4.5 Transboundary Effects. As noted, when considering TB effects an equivalence to European Sites and European Protected Species must be made to account for other jurisdictional legislation and classifications – e.g. Isle of Man, which has no European sites, but does have equivalent protected sites and species protected status.

11.72 – states there is a '*good understanding of the existing environment.*'

Yet, **11.5.4** (Risso's dolphin) does not mention the Manx 'population' in the areas regularly sighted, despite being the closest to the proposed site.

It is difficult to understand how basic oversights such as this can be made, especially since in the Baseline information chapter, for example Pg. 54 (1.106), it states, 'Risso's dolphin are the most commonly seen dolphin species in Manx territorial waters....'

11.5.6

11.115 only refers to the UK waters presence of Minke and the Celtic and Western Irish Sea – however, **1.118** of the baseline information chapter discussed the Manx minke 'population'.

Why is there no reference in the PEIR to minke in the eastern Irish Sea or around the Isle of Man?

Was the baseline information chapter referred to in writing both of these examples (Risso's and minke)?

11.124 There is no mention of the Isle of Man grey seal haul-out and pupping area at the Calf of Man in this section, and yet the Manx population is referred to in general terms in section 11.129.

11.398 (and **11.5.7**) There is no mention of the Isle of Man grey seal haul-out and pupping area at the Calf of Man in this section, and yet the Manx population is referred to in general terms in section 11.129.

See also earlier comments about the omission of Manx grey seal population (which is estimated to number around 400 individuals).

11.130 – the IoM resident population is referred to as 50, but this has since been updated to 400. Contact MWT for further details.

See also **11.668** where **estimated total populations may be underestimated as a result.**

There appears to be a number of Isle of Man marine mammal reference omissions from this section of the PEIR chapter, despite being recognised as relevant in Section 11.148. There's a lack of consistency in presentation/treatment of Manx sites, which makes it difficult to be confident of appropriate consideration.

These sections should be redrafted, and **the other species also reviewed for the same omissions.**

The Isle of Man Government requests confirmation that the regionally important populations of Risso's dolphin, minke whale and grey seal in Manx waters have been properly and comprehensively considered within the PEIR assessment process (including in Section 11.5.9, Table 11.15 etc. and Section 11.8 Transboundary Effects).

11.11 Marine Wildlife licence application; please consider whether an equivalent licence may be required under the Isle of Man Wildlife Act 1990 with respect to;

- **Section 9: Protection of certain wild animals**
- **Section 16: Power to grant licences**

Please contact the Isle of Man Government, Department of Environment, Food and Agriculture for further information.

Marine Conservation Zones Assessment

Acknowledging the specific requirements of the Marine and Coastal Access Act 2009 (1.2.1.1) in relation to MCZ, the Isle of Man Government seeks clarification and reassurance that the statutorily-designated marine conservation areas in the Manx territorial sea, ie. Marine Nature Reserves designated under the Wildlife Act 1990, have been adequately, and similarly considered in relation to this project.

Noting Figure 1 of the MCZ Assessment document, and the inclusion of the territorial sea within the 100 km buffer zone, the inclusion of MCZ distal to the Manx territorial sea (South Rigg MCZ), it is surprising that no reference to the MNRs is included; even as an acknowledgement and explanation for exclusion.

The Manx MNRs are included within the Marine Mammal PEIR, but as statutorily-designated marine conservation zones within a neighbouring jurisdiction and with potential transboundary effects, it would seem appropriate to acknowledge them to some extent in this report. For reference the Manx MNRs are included on the following;

OSPAR MPA Database
JNCC MPA Mapper Database
UNEP/IUCN (Protected Planet)

For further information please see: <https://www.gov.im/about-the-government/departments/environment-food-and-agriculture/environment-directorate/ecosystem-policy-team/wildlife-biodiversity-and-protected-sites/protected-sites/marine-nature-reserves/>

Chapter 12 Offshore Ornithology

The TSC notes the results of the cumulative collision risk assessment in relation to great black-backed gull and look towards the more robust assessment from 2 years of data, in the Environmental Statement to come, noting a potential transboundary connection and the sensitivity of this species in the Isle of Man context (details below). It is also noted that a number of other species utilise the study and may form shared non-breeding populations with the Isle of Man, or connect with Isle of Man breeding population, and Manx shearwaters were found in high numbers in July and August, but significant effects on the regional populations of those species is not expected, from the data so far.

12.39-12.41 Conservation Value – it has been noted that there are no SPAs on the Isle of Man, this being an EU designation and the Isle of Man has never been an EU Member State, nor has a European-level Assessment of seabird interest been undertaken for the Isle of Man, to date, though it is hoped that we can make such an assessment in the future, nevertheless, breeding seabird sites of national importance on the Isle of Man include Maughold Coast and Brooghs ASSI, Central Ayres ASSI/Ayres NNR, Marine Drive ASSI, but also the Point of Ayre (terns), the Calf of Man (seabirds include a recovering colony of Manx shearwaters), and the Sugarloaf/Spanish Head section of coast. The latter two have protection under Manx National Heritage. There is also a series of MNRs with identified seabird interest of relevance.

There is one designated Ramsar Site (Ballaugh Curragh) and potential further Ramsar sites have been identified in a report to the Overseas Territories Conservation Forum (<https://www.ukotcf.org.uk/conventions/ramsar-2/>).

A nuanced discussion of conservation value has been provided and it is hoped that the Isle of Man status of site designations, being different from the UK, can be accounted for, without Manx site statuses skewing down the perceived conservation value of any species within the analyses (as non-SPA sites).

12.4.5 (paragraphs 12.49 and 12.50) - Text here references Chapter 6 (EIA methodology) for the framework & approach, and section 12.8 of Chapter 12 here, for the potential for effects, '*identified in relation to potential linkages to non-UK protected sites and sites with large concentrations of breeding, migrating or wintering birds*'. In section 12.8, however, it is not clear that such account has been taken with respect to Isle of Man sites, though we note that the analysis of great black-backed gull, in a cumulative assessment may be more fulsome once 2 years of survey data become available. Please note, with regard to conservation status and transboundary effects, that the Manx Birds of Conservation Concern provides up to date, evidence based assessments of Manx bird statuses and this is available from <http://manxbirdlife.im/wp-content/uploads/2021/08/BoCCIoM-2021-TABLES-vWEB04-2021-07-30.pdf>.

12.5.4 Designated sites – this states that connectivity with SPA, Ramsar and SSSI is considered. 12.67 notes that effects on SPAs and their component SSSIs are considered in the HRA and '*Accordingly, effects on designated sites are not discussed further within the PEIR*'. As SPAs are not a Manx designation, we request that that the transboundary consideration take account of key Manx seabird sites to ensure no deleterious effects, as these will not have been considered within any UK HRA.

12.6.1 Receptors – those identified include internationally important designated sites for seabirds and migrant birds likely to pass through the study site. It is pointed out that aside from one designated Ramsar site on the Isle of Man, and Marine Nature Reserves with OSPAR recognition, international assessments have not, as yet, included a European level assessment (though we note that there is a report proposing further Ramsar Sites with boundaries and criteria considered). From a Manx perspective, assurance is sought via the Environmental Statement that no Manx bird populations will be significantly adversely affected, and data is available via the JNCC SMP Seabirds Count survey data and the Manx Birds of Conservation Concern data tables.

It is noted that the table of receptors includes SPAs and SSSIs with mean maximum foraging range of qualifying breeding seabirds species, and SPAs and SSSIs where qualifying adult seabird population is

>1% of the relevant non-breeding BDMPS population. In Manx terms this would relate to ASSIs, Ramsar Sites and Marine Nature Reserves, as a transboundary issue.

12.6.2 Potential effects during construction – In paragraph 12.94 it is noted that the Calf of Man has been recognised as the closest Manx shearwater colony to the study site, recognising a likely transboundary connection.

It is noted that Manx shearwater was scoped out of construction disturbance and displacement screening (Table 12.19), but scoped into Operational disturbance and displacement (on a precautionary basis, due to high densities observed during the breeding season). It would be useful to have an explanation of the different approaches to the two sections in relation to this species.

12.6.3 Potential effects during operation and maintenance – disturbance and displacement

Manx shearwater – no displacement effect is expected, from the year of data available so far, in relation to background mortality in regional population during breeding, but it is queried whether there might be any effect on the Calf of Man breeding colony, which is relatively small, but recovering and increasing in shearwater numbers. Manx National Heritage and Manx Wildlife Trust (who currently warden it for MNH) will have the most up to date figures for the colony counts.

12.6.3.2 Collision risk

12.255 Common gull reference population – the text notes one breeding colony within mean max foraging range, with only one nest. It is pointed out that a small number of common gulls nest in the vicinity of the Point of Ayre on the Isle of Man (5 pairs according to the recent Manx BoCC). Although the breeding period collision risk is not high, it is not known whether there is a link between this breeding population and wintering within the study site. It is noted that no significant effect of collision risk was predicted in a regional context.

Migrant collision risk 12.269 – features of SPAs and Ramsar sites were screened in. Note, please, that the Isle of Man does not have SPAs, nor has it had a European level assessment of interest for designation, however it does have a Ramsar Site, which is not listed in this section: Ballaugh Curragh, which has wintering hen harrier quoted as an interest in its designation (there is also a breeding population of significance on the Isle of Man – over 38 territorial pairs in the 2022 survey on the IoM and the Greeba Mountain and Central Hills ASSI includes sites used for breeding <http://manxbirdlife.im/wp-content/uploads/2022/10/Report-on-the-Isle-of-Man-Hen-Harrier-Breeding-Census-2022-v2022-10-10-PUBLIC-1.pdf>). However, it is noted that hen harrier has been assessed (Table 12.47) and that no species assessed showed any prediction of collision, based on a 98% avoidance rate (and no hen harrier collision with no avoidance, either). The omission should not therefore have affected the result.

12.7 Cumulative effects – noted that the Isle of Man wind farm has been acknowledged in the list, though there is no published data currently, and the PEIR states that inclusion will be reviewed at the Environmental Statement stage.

Also noted that great black-backed gull has potential to have a moderately adverse effect which is 'potentially significant' in EIA terms in relation to the regional population. It is pointed out that the Isle of Man has long held a significant population in a regional context, but that the Isle of Man breeding population is in severe decline, across the last 15 and 30 years (Manx BoCC data). Assurance is being sought that there is no threat to the Isle of Man population of this species. PVA may become appropriate and the Manx population should be taken into account in site apportioning.

12.8 Transboundary effects – although the PEIR report notes that this will be revisited, it states that effects are likely to be lower than the cumulative effects due to larger reference populations. However, from the perspective of the Isle of Man, one of the transboundary nations which might be affected, the regional reference populations utilised, should already include the Isle of Man. Transboundary interests for the Isle of Man lie in a consideration of whether effects might have the

potential to adversely impact Manx bird populations or key bird sites on the Isle of Man. The migrant analysis indicates that a migrant effect is unlikely, so the interest lies with the seabirds.

One species likely to be of interest, taking account of the impacts assessment so far, is the great black-backed gull, as the Isle of Man has long held a significant population in the regional context, and also now due to the severe decline in the breeding pop on the Isle of Man. This population lies within foraging range of the study site so a transboundary effect is indeed possible and warrants recognition and consideration in relation to the IoM.

Another species, mentioned above, is the Manx shearwater, with respect to any potential site effect, (but noting that no significant effect on the regional population has been predicted here, on the data so far, but there are much larger colonies within the region). The recent recovery of the Calf of Man breeding colony must be safeguarded.

Also with regard to potential site effects, the Isle of Man seabird sites will not have been assessed within the HRA assessment as the Isle of Man has never been a Member State of the EU. The analysis in this section should therefore also consider whether there could be such effects or not, and may reference other sections of the analysis, if potential Isle of Man connections have been considered in other sections.

Appendix 12.2 Aerial Surveys Report – Discussion paragraph 154 guillemot – ‘*The nearest colonies to the survey areas are likely to be those associated with the Rathlin Island or Ailsa Craig SPAs*’ – should this state, the nearest SPA-designated colonies? There will be many closer colonies, including those on the IoM, though the peak was at the end of breeding post-breeding period so they may be coming from a wide area.

Disc para 157 - Manx shearwater were mainly seen during July and Aug in this first year of data analysed. They have a very long foraging range but we note that the Calf of Man colony, for a Manx shearwater, is very closeby and there is a high likelihood of a connection, as well as with some other colonies.

Chapter 13 Commercial Fisheries

Summary Statement:

In relation to the Assessment of Effects and Cumulative Effects Conclusions in the PEIR, the Isle of Man Government is concerned that the apparently limited coverage of Manx fleet interests in the baseline data (as outlined in detailed comments) may not adequately take into account the Isle of Man's fisheries interest within the regional study area.

As such, the TSC seeks reassurance that the comments made will be reviewed and a more comprehensive re-assessment of the Manx fisheries interests will undertaken prior to finalisation of the EIA document, with results provided to the Territorial Sea Committee for further consideration.

The IoM Government notes that the Regional Commercial Fisheries Zone for the project includes almost all of the Manx territorial sea (Figure 2.2) and that the Local Commercial Fisheries Study Area lies very close to the TS boundary, as such, Manx commercial fisheries should be comprehensively considered in the PEIR and future EIA assessments using the best available data.

Unfortunately the technical report for this chapter appears not to have comprehensively considered the differences between UK and Manx waters, despite Manx waters representing a significant part of the Regional study area. Please see below for details and, for an overview of Manx fisheries; <https://www.gov.im/media/1363405/ch-41-fisheries.pdf>

For the latest information please see:

- <https://www.gov.im/about-the-government/departments/environment-food-and-agriculture/environment-directorate/fisheries/sea-fisheries/>
- <https://www.gov.im/fishing/conditions#accordion>
- <https://www.gov.im/about-the-government/departments/environment-food-and-agriculture/environment-directorate/fisheries/sea-fisheries/legislation-policy-guidance/>

Table 2.1 – note that ALL Manx and UK-registered vessels operating mobile gear inside the territorial sea have a requirement to operate a VMS system. As such data for all vessels is available to inform this sector in Manx waters.

Comments on data sources:

- Landings data from 2016-2021 should be stretched further back is possible. Many fisheries are cyclical, following 7-8 year recruitment cycles, and a hindcast analysis should attempt to acknowledge this in its timeframe.
- MMO only provide data for over-15 m. This is a **significant issue in properly understanding the temporal/spatial extent of fishing activity in proposed development areas**, particularly those such as Morecambe that could feasibly be being fished by some under-15 m vessels.
- Figure 3.12 is an example of potential under-representation of <15m vessels, which shows large, dredge-based Scottish vessels exceeding Manx vessels in terms of value.
- For comparison, Manx Government statistics indicate QSC landings into Manx ports, from all vessels, had a value in excess of £16m over the period 2011-2021

QUEENIES			QUEENIES		
	Landed Weight	Value £		Landed Weight	Value £
	(tonnes)			(tonnes)	
2005	1,133	622,949	2018	801	1,189,939
2006	na	803,205	2019	787	993,398
2007	2,035	na	2020	792	541,372
2008	858	300,300	2021	943	636,593
2009	1,473	na			
2010	2,817	985,999			
2011	4,529	1,389,904			
2012	4,834	1,727,897			
2013	5,806	2,482,856			
2014	2,666	1,393,854			
2015	3,814	2,381,563			
2016	2,488	2,244,925			
2017	1,365	1,555,691			
2018	801	1,189,939			

Data refers to Manx registered and landed, UK/EU registered and Manx landed, but excludes UK/EU registered caught in Manx Territorial Sea and landed outside Isle of Man

- The use of AIS as a means to address the risk of underrepresentation of <15m is not considered adequate, noting that other concurrent PEIR processes have included observational data. In the absence of additional data sources, specific engagement with local Producer Organisations and fishing Industry representatives should be undertaken in relation to this issue.

Based on the relative distance from the Isle of Man, and the typical fishing patterns of the Manx fleet, it is acknowledged as likely that the Morecambe site will have limited direct impact upon Manx vessels; however, the displacement effects, particularly in relation to queen scallops, could have significant impacts upon important grounds elsewhere in the regional study area. The EIA should fully consider the displacement effects, and in the context of cumulative impacts of adjacent windfarm developments, and the potential for increased fishing area in nearby grounds within the eastern Irish Sea if the EIA determines that existing activity is indeed likely to be displaced. It appears that the majority of existing dredge activity (targeting molluscs) is toward the southern end of the site, and so mitigation of this impact may be possible through array configuration.

For clarity, please **ensure that reference to IoM-registered vessels is clearly stated if they are included in UK-registered vessels data**, otherwise requests for such clarity will continue to be made.

It is important to the Isle of Man Government that it is evident that the Manx fleet has been appropriately considered as part of this process.

As the Isle of Man is not part of the UK, the assessment must also be considered in the context of a separate/neighbouring jurisdiction, with its own legislative system, and in terms of transboundary effects.

It should be recognised that legislation may be different but also that international treaty and convention commitments may be relevant to the Isle of Man.

3.2.1 Scallop dredge: please note that Isle of Man vessels typically do not target queen scallops using a dredge, and that queen scallops are not caught in Manx waters using a dredge. As such, in the context of the Regional study area, it should be recognised that both gear types are used to catch scallop species, and that fleet characteristics and spatial considerations are relevant.

Queen scallop

It is also noted that research information and stock assessments being used as an indicator for wider Irish sea stocks, must consider gear differences, and that queen scallops are only fished for around 4 months in Manx waters (in part due to preferred use of trawl gear), compared to around 9 months of fishing for QSC in UK waters. So there are **other contributing factors to stock assessment and trends that must be considered before making comparisons.**

Please note latest data on QSC stock is available

http://sustainable-fisheries-iom.bangor.ac.uk/documents/government-reports/scallop/2022/QSC_StockAdvice_Report_2022_Final.pdf

See also: <http://sustainable-fisheries-iom.bangor.ac.uk/communications.php.en>

There are significant management measures in place for queen scallops in the Manx territorial sea, including catch limits and a 55mm MLS, contrary to information contained in this section.

For details please see IoM licence conditions: <https://www.gov.im/fishing/conditions#accordion>

King scallop

For latest scallop stock status report in Manx waters please see : http://sustainable-fisheries-iom.bangor.ac.uk/documents/government-reports/scallop/2022/SCESurveyReport2022_Final.pdf

There are catch limits in place for king scallops in Manx waters.

For details please see IoM licence conditions: <https://www.gov.im/fishing/conditions#accordion>

3.2.2 Pots and Traps

Table 3.3 appears to have completely excluded Manx static gear vessels operating within the Regional study area, including within the IoM territorial sea. For example Manx data (2018-2021) on landings (all vessels) and value into the IoM indicates the following;

WHELK		CRAB		LOBSTER
Landed Weight	Value	Landed Weight	Value	Landed Weight
(tonnes)	£	(tonnes)	£	(tonnes)
993	1,166,231	629	1,176,197	43
940	1,087,085	437	893,862	45
667	773,199	465	708,136	47
534	603,165	531	956,529	47

Please address this oversight accordingly.

Please note, in Manx territorial sea the following MLS apply;

Whelk = 75 mm

Lobster = 90 mm

Brown crab = 140 mm

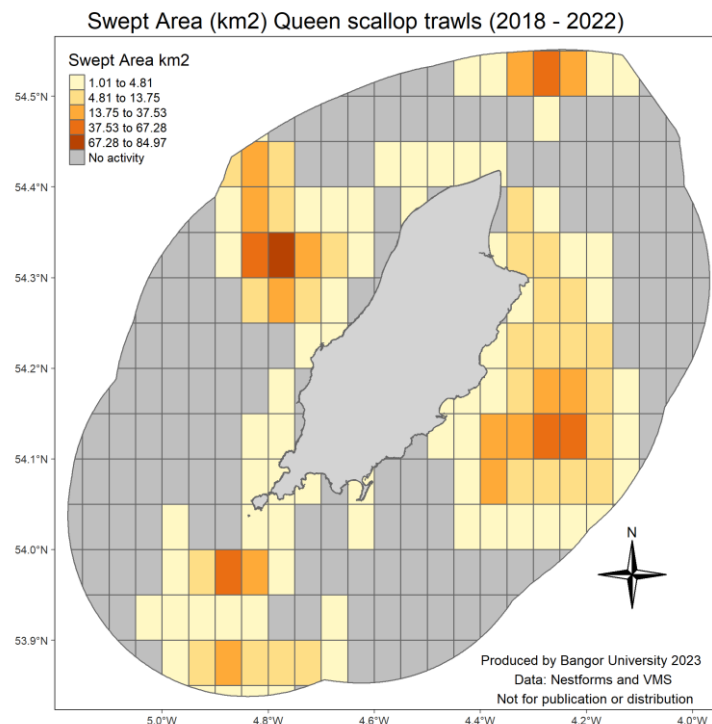
For details on licencing and management measures in place please see;

<https://www.gov.im/fishing/conditions#accordion>

3.2.6 Demersal otter trawl

This section, and Figure 3.7, appears to have completely excluded queen scallop from this gear type, which is predominantly caught in Manx water using otter trawl. See Figure 3.28, which shows otter trawl activity in Manx waters not associated with the species mentioned in 3.2.6

This is a significant oversight and should be corrected.



Queen scallop: fishing activity map (otter trawl) based on EU VMS data (2018-2022) from Citrix (available from MMO) merged with NestForms data (held by DEFA, IoM Government). Alternatively, EU logbook data from Citrix (available from MMO) could be used in place of NestForm data.

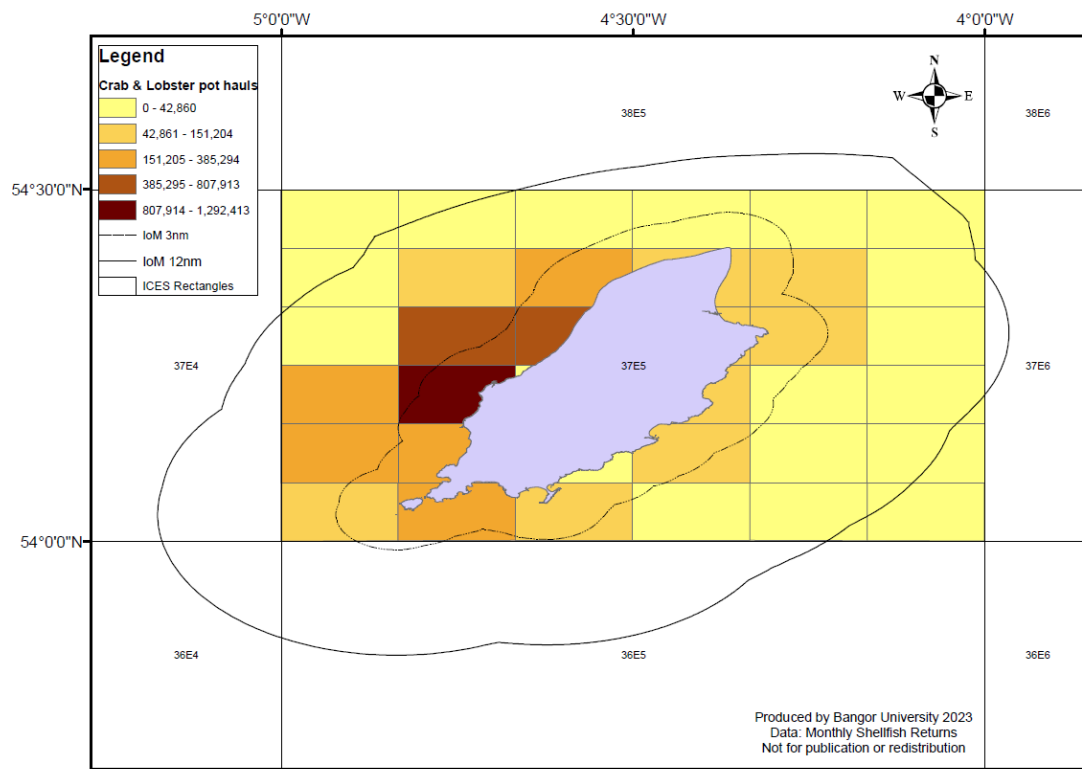
3.3. Fishing Activity Assessment

As noted above, the use of >12 and > 15m vessel data is unlikely to provide a comprehensive assessment.

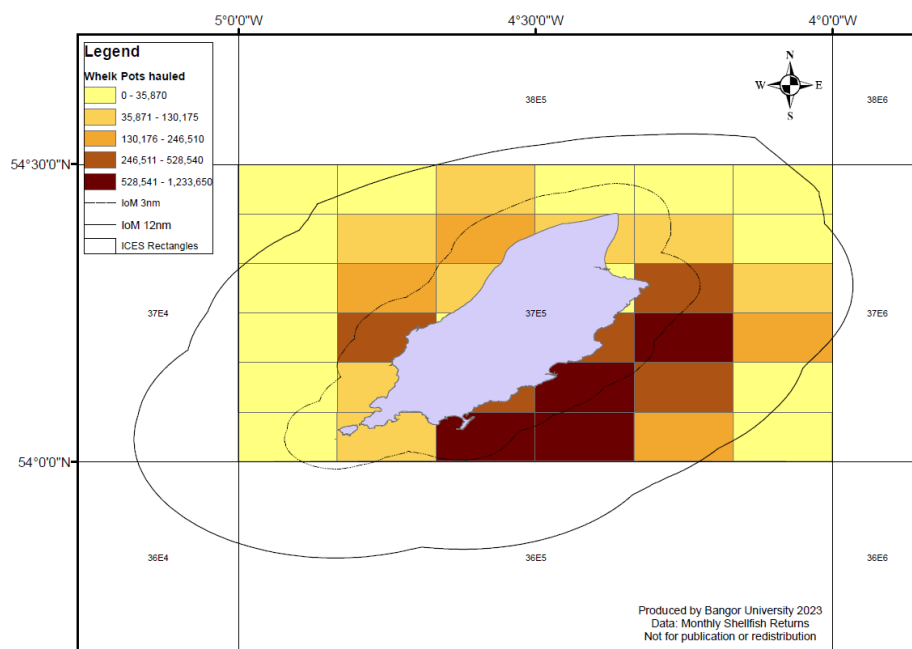
For example,

Figure 3.25 shows limited static gear activity in Manx waters, however, data plotted recently by IoM Government shows much more static gear activity for the Manx territorial sea area.;

Data on smaller Manx static gear vessels could be obtained from various sources, including Isle of Man Government, MFPO or Manx fishermen directly.



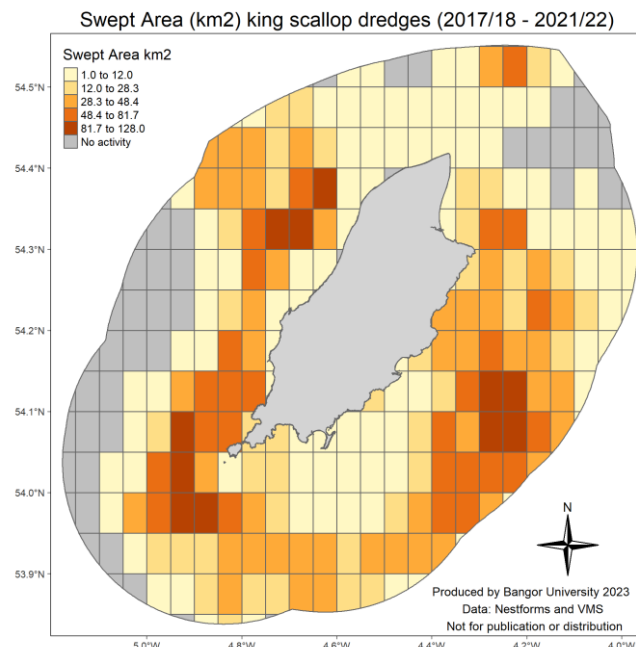
Crab and lobster commercial fishery activity data (2010 to 2021) (static gear) based on pot hauls (as a proxy for fishing effort/activity)). Data is obtained from monthly shellfish activity forms, but which does not contain EU logbook data from larger U.K. vessels (i.e. U.K. vessels fishing in 38E5), and so is not comprehensive. It is not known whether these data is available on Citrix (i.e. from MMO), or whether only DEFA holds it.



Whelk commercial fishery activity map (2010 to 2021)(static gear) based on pot hauls (as a proxy for fishing effort/activity)). Data is obtained from monthly shellfish activity forms, but which does not contain EU logbook data from larger U.K. vessels (i.e. U.K. vessels fishing in 38E5), and so is not comprehensive. It is not known whether these data is available on Citrix (i.e. from MMO), or whether only DEFA holds it.

Where in **Figure 3.30** is Manx-registered vessel data, which contains UK, Northern Irish and Irish vessels?

Manx vessels significantly target scallops in the regional study area, especially within the territorial sea; so their apparent exclusion questions the comprehensiveness of the baseline and consequent assessment.



King scallop: fishing activity map (dredge) based on EU VMS data (2017/18-2021/22) from Citrix (available from MMO) merged with NestForms data (held by DEFA, IoM Government). Alternatively, EU logbook data from Citrix (available from MMO) could be used in place of NestForm data.

3.3.8 Isle of Man Fisheries Activity Assessment

As noted above, this section appear to be less than comprehensive.

Due to the importance of the fishing industry to the Manx economy and territorial sea, and their inclusion within the Regional study are for this development proposal, the Isle of Man Government requests that this section is reviewed, and assessed accordingly within the technical report and PEIR.

5 Summary

As above, this section **does not reflect the appropriate inclusion of the Isle of Man** within the regional study area.

In fact, it is not mentioned at all in the summary, which is surprising considering the territorial sea comprises a significant area of fishing activity and is largely within the regional study area.

PEIR

13.15- 13.16 and 13.17

When dealing with potential interactions with non-EU jurisdictions, it may be necessary to consider the equivalent of species and area protections. For the Isle of Man, which is not, and has never been an EU member state, please refer to the **Wildlife Act 1990** for legal protection within Manx waters.

Manx Marine Nature Reserves have specific fisheries management measures applied and, as noted above, specific management measures apply to Manx waters which should be considered in terms of displacement effects. For example, it cannot be assumed that displaced vessels from the array area can fish in Manx waters (thereby concentrating displacement in a reduced UK waters area). Similarly, displacement into Manx waters must be considered in the context of Manx legislation, policies and strategies eg. the recently adopted LTMP for scallops, which fundamentally restricts

access in favour of economic benefit to licenced vessels, whose numbers are broadly matched to track record and stock status;

<https://www.gov.im/media/1376550/ltmp-10-260522.pdf>

<https://www.gov.im/media/1376551/sf-04-2022-capacity-reduction-programme-king-scallop-v2.pdf>

<https://www.gov.im/media/1376552/sf-05-2022-grandfather-rights-king-scallop-260522.pdf>

Legislative and fisheries management and policy objectives within a non-UK jurisdiction inside the Regional fisheries study area should at least be acknowledged, even if found not to be significant in EIA terms.

See Chapter 1.2 of the Manx Marine Environmental Assessment:

<https://www.gov.im/media/1363391/ch-12-legislative-system.pdf>

13.22 Please confirm that Isle of Man-registered vessels have been included in landing statistics.

13.4.6 Assumptions and Limitations

Please see comments above on the Technical Report relevant to this consideration.

13.42: as noted elsewhere, it is understood that MMO VMS data is not limited to >15m vessels. Manx data, which is dominated by <15m vessels is available on the MMO database.

13.5.2 Description of Fishing Fleets etc

Please see comments above on the Technical Report relevant to this consideration, in particular the absence/limited inclusion of Manx-related otter trawl and static gear activity.

Table 13.12: ditto, as it has a complete absence of Isle of Man reference within the regional study area.

13.6 Assessment of Effects

Table 13.13 – no reference to QSC as target species for otter trawl.

Overall, the Isle of Man Government is concerned that the apparently limited coverage of Manx fleet interests the baseline data (outlined above), and therefore the resultant effects assessment, does not adequately take into account the Isle of Man's fisheries interest within the regional study area.

As such, the TSC seeks reassurance that the comments made will be reviewed and a more comprehensive re-assessment of the Manx fisheries interests will be undertaken prior to finalisation of the EIA document, with results provided to the Territorial Sea Committee for further consideration.

13.7 Cumulative Effects

- Please also note Crogga gas project: <https://www.crogga.im/>
- And a likely second electricity interconnector between IoM and UK. Contact Manx Utilities Authority for details.

Overall, the Isle of Man Government is concerned that the apparently limited coverage of Manx fleet interests the baseline data (outlined above), and therefore the resultant effects assessment, does not adequately take into account the Isle of Man's fisheries interest within the regional study area.

As such, the TSC seeks reassurance that the comments made will be reviewed and a more comprehensive re-assessment of the Manx fisheries interests will undertaken prior to finalisation of the EIA document, with results provided to the Territorial Sea Committee for further consideration.

Chapter 14 Shipping and Navigation

The TSC is particularly concerned about the cumulative impacts from all of the proposed windfarms awarded as part of The Crown Estate's Round 4 project, and would want to see this fully taken into account as part of the subsequent EIA to be submitted as part of the Development Consent Order application. As an island nation, any significant risk of interference with marine navigation is of concern to the TSC with regard to transport to and from the island, and the shipping lanes in our Territorial waters which are used to connect the UK and Ireland..

The TSC appreciates that the Isle of Man Steam Packet Company (IOMSPC) has until now been kept involved in this process including early project consultation meetings, and involvement in the navigational bridge simulations. It is essential that the Island's shipping companies, the Isle of Man Steam Packet Company and other shipping companies are continuously engaged throughout this process.

Representatives from the TSC have been involved in the Maritime Navigation Engagement Forum encompassing all the neighbouring Round 4 offshore windfarm sites, and will continue throughout the duration of this process.

The TSC suggests that it might be useful to also include Douglas Port as one of the pilot boarding stations for Liverpool in Table 14.12 given that it is the same distance away (at 29nm north west, as per Table 14.13) as Point Lynas. Douglas is an important port for both boarding the pilots, as well as providing shelter during periods of adverse weather. It should also be noted that there are RNLI Stations located in Port Erin, Port St.Mary and Peel in the Isle of Man (at 40nm, 41nm, and 43nm).

The TSC notes the acknowledgement of the presence of the IOMSPC and both its routes in the Irish Sea, noting that for the the Manannan, its voyage passes primarily to the west of the proposed site (14.68).

Of greatest concern to the TSC in respect of shipping and navigation is in respect of the impacts relating to the ferry routeing.

Impact 1: Impact on ferry routeing (under normal sailing conditions):

The TSC acknowledges that there will be a slight deviation required from IOMSPC vessels in respect of the construction and the operation phases, which could result in 8% re-routing however it is not envisaged from this analysis that it will require additional travel time (shown in Table 14.19). Confirmation should be sought from the IOMSPC that this mitigation is acceptable to them. It is further acknowledged that adverse weather is not expected to affect the adverse weather routes used by the IOMSPC. The TSC would welcome further engagement with the project team if and when any amendments are considered to the boundary of the site which may minimise impacts to passage.

Cumulative effect assessment methodology

The TSC acknowledges the inclusion of the site subject to an Agreement for Lease with Ørsted for a proposed offshore windfarm in Isle of Man territorial waters (at 38.2km away from Morecambe Bay Array Area) has been taken into account as part of the EIA methodology as part of the Cumulative Effects Assessment, as set out in Chapter 6 and in the Shipping Chapter 14. The TSC further notes that it has been considered that there is insufficient information available about the project at the minute, however it has been acknowledged at high level at this stage. The TSC is pleased to see that the site will be further considered at the Environmental Statement stage.

It is essential to ensure that there is no barrier or restrictions placed on the ability for Search and Rescue efforts to be hampered as a result of the proposed Morecambe Bay Array Area and indeed, the cumulative impact of all projects identified within the Cumulative Regional Navigation Risk Assessment.

Impact on ferry routeing

The TSC notes that the findings from the Cumulative Regional Navigational Risk Assessment which identifies that during adverse weather, there is the potential for impact to both IOMSPC routes in terms of additional time in minutes per journey which will, from a commercial perspective add additional costs to the company in terms of fuel to be burned, and any requirements to additional emissions being offset. The TSC notes that in respect of the Douglas Liverpool route and deviations as a result of the Mona Array Area, this addition is forecasted at an additional 17 minutes journey time, while for the Douglas Heysham route to deviate around the Morgan Array Area, it is forecasted at an additional 27 minutes on top of an existing delay. It is however acknowledged in para 14.26 that these impacts are driven by Morgan and Mona rather than Morecambe Bay which has outlined in the Shipping and Navigation Chapter that even during adverse weather conditions, there is no impact to IOMSPC services.

The TSC awaits continued engagement to explore the further mitigation measures and residual effects to be considered and proposed by the project teams, particularly in respect of shipping and navigation as part of the cumulative impact assessment. The TSC is deeply concerned about the cumulative impact all of these offshore windfarms could have on its lifeline services and any deviations to well established routes will not be accepted.

The Navigational Risk Assessment

The Navigational Risk Assessment includes a summary of a number of main, overarching concerns that the TSC wishes to repeat here as all are applicable in respect of shipping and navigation for the Isle of Man.

In particular, the TSC acknowledges that there would be a requirement for the rerouteing of a small proportion of IOMSPC vessels which currently equate to 8% of the total crossings which route through the Morecambe Bay Array Area. It would be necessary for these vessels to follow the path of the greater proportion of IOMSPC journeys within this vicinity, at 2nm to the southwest corner of the Array Area. The TSC would seek confirmation that this is acceptable to the IOMSPC.

Chapter 16 Civil and Military Aviation and Radar (Ronaldsway Airport)

As an airport, we take the safety and security of our passengers, employees, and aircraft very seriously, and we understand that the development of offshore wind farm can potentially impact aviation safety.

To ensure the safety of aircraft operating in the vicinity of offshore wind farms, it is essential that appropriate mitigation measures are put in place to ensure that any potential impacts on aviation safety are identified and addressed. This includes conducting thorough impact assessments, technical safeguarding assessments of aerodrome navigation systems, developing appropriate mitigation measures, and regularly monitoring the wind farm's impact on aviation safety to ensure that these measures remain effective.

We are committed to working collaboratively with all stakeholders to ensure that any development of offshore wind farms does not compromise the safety of air travel and welcome any opportunities for further engagement with the project teams.

Chapter 17 Infrastructure and Other Users

The TSC appreciates that there is mention, and inclusion of the Isle of Man interconnector between the Island and England as part of this chapter as it transects through the proposed Morgan array areas.

The comments and feedback outlined below have been drawn up following a review of the information made available to the Manx Electricity Authority for the purpose of stakeholder consultation regarding project proposals relating to the above Wind Farm development.

The comments, views and feedback outlined in this document relate to those of the Manx Cable Company and Manx Electricity Authority, as stakeholders, considering the proximity of the proposed wind farms to our existing assets in the Eastern Irish Sea as well as significant stakeholders in the social-economic success of the Isle of Man.

Background Information:

The Manx Cable Company (MCC) own and operates, on behalf of the Manx Electricity Authority, a submarine power cable, referred to as the interconnector, which runs between Douglas Head in the Isle of Man and Bispham, Blackpool. With an undersea section of approximately 104km (65 mi), it is one the longest AC undersea cables in the world and is an essential means of maintaining secure supplies of electricity to the residents of the Isle of Man.

Sub-sea cables are vulnerable to third-party damage from marine activities and these risks are constantly being monitored and assessed, as the impact from third-party damage can result in significant repair and business interruption costs to the Authority.

In addition to third-party damage the introduction of fixed structures and associated export, collector and/or array cables on or buried in the seabed, can through their proximity present an ongoing operational risk to maintenance and repair works over the life of the asset.

Considering the interconnector's asset value and strategic importance to our business and the wider Manx economy the MCC welcomed the opportunity to engage in the project consultation process regarding developments in the Eastern Irish Sea.

Interpretation of Wind Farm Proximity to the Interconnector:

The wind farm is located to the south of the interconnector; no direct conflict.

The wind farm export cables will be positioned within the indicative cable corridor, which runs from the wind farm boundary towards northwest coast of England narrowing to a point north of the Ribble Estuary.

Our asset runs along the northern boundary of the proposed export cable corridor where it terminates north of Blackpool.

Comments and Feedback:

The comments and feedback, relate to concerns, which have been identified following an Impact/Risk Assessment regarding the potential increase in risk to the interconnector, through the construction and operational phases of the proposed Wind Farm.

Item	Risk Category	Potential Increase in Risk	Level of Concern	Comments
1	Third Party Damage	Displacement of fishing activity increases fishing	Low	The impact of displaced fishing activity may present an unacceptable increase in

		interaction, from present levels, over the cable route.		risk considering the collective impact of Eastern Irish Sea in the future.
2	Third-Party Damage	Survey works [Geotechnical] which are invasive and interacts with the sea bed in close proximity to the IOM interconnector	High	Request developer engages as soon as it is practicable with MCC to review any survey with 1NM and assess the risk presented by the proposed survey works due to its nature and proximity.
3	Third-Party Damage [1]	Cable installation [export cables]	High	Request developer engages as soon as it is practicable with MCC to review any cable installation activities with 1NM and assess the risk presented by the proposed works due to its nature and proximity.
4	Third-Party Damage [1]	Fixed Structure installation [offshore sub-stations]	High	Request developer engages as soon as it is practicable with MCC to review any offshore construction activities with 1NM and assess the risk presented by the proposed works due to its nature and proximity.
5	Operational Risk [1]	Close proximity of fixed structures such as offshore substations	Medium	Request developer engages as soon as it is practicable with MCC to open dialogue on determining a suitable proximity limit where the planned proximity of any fixed structure is within 1NM of the IOM interconnector
6	Operational Risk [1]	Third-party cable crossings	Medium	Request developer avoids, wherever possible, multiple crossings of the IOM interconnector by export, collector and/or array cables. Where multiple cable crossings are necessary, the crossing of cables should be spaced and agreed so that, timely and economical repairs to both the crossing and crossed cables can be undertaken.
7	Potential Design/Construction Conflict	Several options for future interconnection, via a second sub-sea	Low	At present these plans and options are still in the high level feasibility stage but it is considered appropriate to

		interconnector cable, between IOM & UK are currently being considered with one potential off-shore cable route/corridor running to the south of the proposed Morecambe Windfarm and landing south of Blackpool.		highlight and share our plans for information purposes at this time. As more information becomes available Manx Utilities will be able provide more information as appropriate.
<p>[1] MCC considered it appropriate for the developer to engage as soon as reasonably practicable with MCC to commence discussions on the potential requirements for crossing and proximity agreements, associated with export cables/infrastructure, to minimise issues/delays as the project progresses.</p>				

Chapter 18 SLIVA

The exact layout of each Project's infrastructure is still being developed and will not be finalised until the Project has been granted consent by the Planning Inspectorate and Secretary of State for the Department for Energy Security and Net Zero. Due to the complexity of the Project, many details will likely remain unknown to us at the time of submitting our application, including the:

- Precise number, location and configuration of the wind turbine generators (WTGs), offshore substation platforms (OSPs) and any associated development.
- Type of foundation to install the turbines and any associated development.
- Exact height of the tip of the turbine rotors and the diameter of the rotors

The work has been undertaken in accordance with accepted industry guidance (SLIVA). Whilst there are some points of detail that may merit further scrutiny/debate, which is often the case when judgement is involved, generally the findings are concurred with. They are all based on worst case scenarios.

The preliminary SLIVA's establish that there will be no significant effects on seascape, landscape or visual receptors. Due to long distance, the large scale of the associated seascape and the presence of existing operational offshore windfarms. While they will be visible on the eastern horizon it is in the context of an expansive seascape with the presence of existing operational offshore windfarms.

Chapter 20 Socio-Economics, Tourism and Recreation

Compiled by DfE, Treasury, with review of draft SPCO comments

General Observations

- Of the three windfarms (Mona, Morgan, Morecambe), the Mona and Morgan arrays seem to represent the biggest economic risk to the Island. This is particularly the case when the multiple windfarm developments are looked at as a whole. This also includes existing windfarms (such as West of Duddon Sands) and the potential for developments within Isle of Man waters.
- There would appear to be limited commentary in the consultation documents on the economic impacts on the Island. It is noted that the Morgan document PEIR 2.20 only covers the potential impacts of views of the windfarm from the Isle of Man, not the much more substantial economic effects on lifeline services.

Economic Impacts – Lifeline Services

- **It is noted that SPCO have highlighted a number of apparently material inaccuracies in the consultation documents in relation to the frequency, importance, and expected impact of the developments on SPCO operations (and therefore the impact on the Island).**
- As a small Island nation, the Isle of Man is largely dependent on the import of goods. This includes time-critical deliveries such as food, medical supplies, chemicals, as well as construction supplies, durable goods, and many others.
- Any disruption of time-critical lifeline goods can have wider social impacts on the Island. The most obvious impact from a resident's perspective is in instances where there are multiple disrupted days' sailings, which can lead to shortages in shops and panic buying in some instances. This effect is likely materially different and proportionally much larger compared to a UK-Ireland service, for example.
- Wider impacts include general costs to businesses in terms of delayed imports/exports. The Island is at a competitive disadvantage in terms of transit times for goods and these issues would be exacerbated by an increase in delays/cancellations. This is particularly relevant in relation to seafood / agricultural export, manufacturing, and engineering sectors of the economy.
- There is only one other sea freight provider supplying the Island (Mezeron) and this operates at a substantially smaller scale than the SPCO. As a result a disruption to SPCO would be of proportionally much greater magnitude to the Isle of Man's economic and social wellbeing compared to routes where alternatives are available.
- As noted by SPCO, the ferry service runs on a tight schedule with limited ability to make up time. For this reason, even fairly small increases in transit time would be expected to lead to a general increase in cancellations.

Economic Impacts – Resident Travel

- It is noted that the developments (especially in combination) will adversely affect journey times. This would have an economic cost to Island residents travelling via sea. In situations where longer delays or cancellations occur due to the impact of the developments, these would be exacerbated.
- Additional economic costs imposed on residents harms the Island's attractiveness as a place to live and work, though quantifying this effect is not possible.

Economic Impacts – Non-Resident Travel & Tourism

- It is noted from SPCO's comments that the Liverpool services are particularly vulnerable to disruption in the Spring and Autumn due to weather and the need to avoid the developments.
- If cancellations occurred during 'peak' travel periods, this could lead to significant impact with a lack of capacity on alternative sailings;
 - During super peak periods (i.e. TT / MGP), this could lead to passengers being delayed by extended periods (potentially days as other sailings are full);
 - If visiting passengers travelling from the IoM were impacted, again during peak periods this could lead to a logistical challenge to accommodate people on Island, with accommodation providers potentially already being at capacity. There is precedent here when air and sea services have been disrupted and a civil contingency plan has been required to provide emergency overnight accommodation.
- The Consultation documents appear to speak in general terms with sailings averaged across the year, which does not reflect the very large peaks in traffic at particular points in the year, which would be severely impacted by any disruption. For example, while there are limited winter Liverpool sailings, the summer/TT sailings can be extremely busy.
- As with residents, additional economic costs (quantity unknown) would be borne by visitors to the Island, which would ultimately make the Island a less attractive place to visit to some degree.

Chapter 21 Climate Change

- The PEIR report is comprehensive and ties in to UK National Planning policy, plus energy and climate policy
- The GHG emissions are clearly stated across each stage, construction, operation and decommissioning
- The whole-life avoided-emissions are clearly stated and show that the developments, despite being emitters, are positive for overall global emissions when comparing them to fossil fuels
- Adaptation risks have been considered.
- The PEIR report is a fair and reasonable assessment.
- In addition, noting the concerns regarding the potential effects on shipping and navigation route as a result of this proposed development; from a climate change point of view the shipping and navigation section seems to be well assessed, and since ferries are by far the lowest emitting way to travel to and from the Island, it is very important that these routes are not significantly affected by this development proposal.

General comments from Manx National Heritage (MNH):

MNH would expect that the forthcoming EIA would consider the following issues:

An EIA would need to contemplate the following issues:

Visual impact of proposals on the setting of protected monuments on the east side of the watershed of the Island, is estimated at approximately 25 monuments. However, given the significantly longer distance involved, this impact may be limited. Moreover, there remain some flagship sites such as Castle Rushen and Laxey Wheel which are major tourist assets of national and economic significance to the Island where the impact would need to be considered more holistically.

The potential direct impact on historical shipwrecks would also need to be assessed. MNH has recently acquired some shipwreck data and whilst this is still being evaluated and integrating it into MNH data system however it would appear that this data we have does not extend as far as the Morecambe development site. The developer would have to consult other sources in England.

MNH can provide the developer with access to this data upon request.

In addition, MNH provides the following general comments:

- The need for protection of the seabed with particular reference to areas of high conservation or carbon sequestration value, such as sea grass beds, *Zostera marina*, as highlighted in the Manx Marine Nature Reserves.
- Protection of sensitive coastal areas such as Dhoon, Laxey and Maughold headlands which are noted for their nesting sea bird communities.
- Protection of the seabed from scour and silt during the positioning of rock berms and trench digging and removing boulders.
- Limiting noise pollution as cetaceans are regularly recorded between Ramsey and Laxey Bays.
- Limiting disturbance of marine species and coastal sea birds during any boat trips from the Island to the arrays, as and where necessary.