PSE Kinsale Energy Limited

Kinsale Alpha and Bravo Platforms Shallow Geological Survey

Response to Request for Further Information

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Contents

1 INTRODUCTION

On 14th May 2020 the Petroleum Affairs Division, Department of Communications, Climate Action and Environment (DCCAE) wrote to PSE Kinsale Energy Limited (KEL) requesting further information on its application to undertake a shallow geological survey around the Kinsale Alpha and Bravo platforms.

KEL has considered the points raised in the DCCAE letter and encloses herein a detailed response to this request for further information.

2 INCLUSION OF CERTAIN SPA SITES FOR ASSESSMENT

Two requests for further information relate to the inclusion of additional site features or sites in the screening for AA. These queries and responses to them are provided below.

2.1 DCCAE Query 1

Potential impacts were identified for 33 SPAs, however not all of the SCI species that are sensitive to noise disturbance in the marine environment and where the survey is within their foraging range, were considered in the AA Screening report. These include the Saltee Islands SPA (guillemot and puffin), Puffin Island SPA (lesser black-backed gull), Blasket Islands SPA (lesser black-backed gull), Deenish Island and Scariff Island SPA (lesser black-backed gull) and Helvick Head to Ballyquin SPA (herring gull and kittiwake). PSE KE is requested to provide an assessment on the likely significant effects of the proposed survey on these SCI species for the SPAs.

2.1.1 Response

The selection criteria for Natura 2000 sites in the AA Screening Report is based on individual qualifying interest feature sensitivity and the likelihood that there could be an interaction with the survey, based on the nature and scale of the proposed activities. The screening process for the Natura 2000 sites involved the systematic consideration against a range of criteria, including species sensitivity to the potential effects of the survey and their connectivity (e.g. through an understanding of foraging ranges). The foraging ranges used in this RFI response are based on Woodward *et al*. 2019, see Table 1; see also the clarification in the response below to query 3 on the inclusion of foraging ranges noted in Wakefield *et al*. (2017). Not all SCI species from each of the 33 SPAs have mean maximum foraging ranges which encompass the platform survey area. Only those species with mean maximum foraging ranges which overlap with the proposed survey area are considered to have a potential for likely significant effects from interactions with the survey.

DCCAE requested an assessment of the likely significant effects of the proposed survey on the following SPAs and their SCI species which are tabulated along with the distances to the proposed survey area and mean maximum foraging range for the species:

Site	Feature	Distance to survey	Foraging range Mean max (Woodward *et al*. 2019)
Saltee Islands SPA	Guillemot	103km	73.2km
	Puffin	103km	137.1km
Puffin Island SPA	Lesser black-backed gull	158km	127km
Blasket Islands SPA	Lesser black-backed gull	175km	127km
Deenish Island and Scariff Island SPA	Lesser black-backed gull	142km	127km
Helvick Head to Ballyquin SPA	Kittiwake	50km	156km
	Herring gull	50km	59km

Of the features noted in DCCAE's query, only puffin from the Saltee Islands SPA, and herring gull and kittiwake from the Helvick Head to Ballyquin SPA, are within the mean maximum foraging ranges of bird species and so could be affected by the platform survey. Therefore, it is concluded that there is **no potential for significant impacts on any of the other SCI species (guillemot, lesser black-backed gull) for the other sites (Saltee Islands SPA, Puffin island SPA, Blasket Islands SPA, Deenish Island and Scariff Island SPA)** mentioned in this query.

Puffin and kittiwake from the relevant sites are now included in the assessment provided in Section 2.3, below reflecting updated foraging range data, and to avoid duplication are not assessed here. However, for herring gulls, although their foraging range is such that individuals from the Helvick Head to Ballyquin SPA have the potential to interact with the survey area, this is not a pursuit-diving species and so not considered to be sensitive to underwater noise (see Section 3.4.2 of the AA Screening Report). While some individual birds may forage within the survey area, they are viewed as having a low sensitivity to disturbance by shipping traffic (Garthe & Hüppop 2004, MMO 2008, Fliessbach *et al*. 2019). When considered in the context of wider support shipping associated with the operation of the Kinsale facilities (approximately one supply round trip every 28 days), and broader shipping activity in the Celtic Sea (e.g. a shipping study based on Automatic Identification System (AIS) data completed for IOSEA4 (DCENR 2011) indicated that some 300-750 vessels per year were present in waters off the south coast of Ireland including the vicinity of the survey area), any disturbance from the proposed survey, which will be of short duration, is **unlikely to have significant effects on the Helvick Head to Ballyquin SPA herring gull qualifying interest.**

2.2 DCCAE Query 2

Two SPAs that are within the Zone of Influence for the survey, namely the Mid Waterford Coast SPA and the Wexford Harbour and Slobs SPA were not assessed. You are requested to provide an assessment on the likely significant effects of the proposed survey on these SPAs.

2.2.1 Response

As noted in Section 2 of the AA Screening Report, the selection criteria for Natura 2000 sites are based on individual qualifying interest feature sensitivity and the likelihood that there could be an interaction with the survey, based on the nature and scale of the proposed activities, rather than a Zone of Influence. The starting point of the screening process was every Irish Natura 2000 site, which was systematically considered against a range of criteria, including species sensitivity to the potential effects of the survey and their connectivity (e.g. through an understanding of foraging ranges). On this basis, it was concluded that connectivity to the Mid-Waterford Coast SPA and the Wexford Harbour and Slobs SPA were limited, with no potential for significant impact, and these were therefore not considered further in the assessment.

For clarity, the features of the Mid-Waterford Coast SPA (peregrine falcon, herring gull, great cormorant and red-billed chough), are either highly unlikely to be present in the survey area in view of mean maximum foraging range (herring gull, 58.8 ± 26.8km, and great cormorant, 25.6 ± 8.3km considered against a distance of ~88km between the SPA and survey location) and/or habitat preference (peregrine falcon and red-billed chough). No foreseeable interaction was originally or now, identified for these features. Similarly, of those features of the Wexford Harbour and Slobs SPA for which breeding season foraging range data is available (black-headed gull, 18.5km; lesser black-backed gull, 127 ± 109km; little tern, 5km), none were identified as likely to interact with the survey area in view of the distance to the SPA (~145km). Of the remaining features, these are primarily associated with the wintering waterbird assemblage which contain species not sensitive to the potential effects of the survey and/or with habitat preferences which would not bring them within the survey area, and therefore, interactions, or sources of potential likely significant effect, were not identified with the survey.

2.3 DCCAE Query 3

The foraging ranges used in the assessment to screen SPAs are as per Thaxter et al. (2012). However, larger maximum foraging ranges are provided by Wakefield et al. (2017) for species such as blacklegged kittiwake, common guillemot and razorbill. In addition, Woodward et. al. (2019) has updated the foraging ranges for the species listed in Thaxter et al. (2012). Therefore, you are requested to review and consider the foraging ranges provided in Wakefield et al. (2017) and Woodward et. al. 2019 and to amend their assessment if required.

2.3.1 Response

Woodward *et al.* (2019) has been reviewed for this response and a comparison of the various foraging ranges between Thaxter *et al.* (2012), as used in the submitted AA Screening Report, and Woodward *et al.* (2019) is provided in Table 1 below.

DCCAE requested that the foraging ranges presented in Wakefield *et al.* (2017) are also reviewed and considered. The foraging ranges in Wakefield *et al.* (2017) are presented as maximum or median values rather than mean maximum, and are therefore not comparable to the values presented in Thaxter *et al.* (2012) or Woodward *et al.* (2019). Moreover, the latter publication includes the data from Wakefield *et al.* (2017) as part of a broader review of foraging range data to update those collated in Thaxter *et al.* (2012), and it does not seem appropriate to make a distinction of a different metric for selected species. KEL have reviewed and considered all of the available data on foraging ranges, including Wakefield *et al.* (2017), and consider that the revisions presented in Woodward *et al*. represent the latest and most robust data available on which to base the screening for AA.

Table 1: Indicative breeding season foraging ranges

Species	**Mean maximum[1] (km ± SD)**		**Confidence Level (Woodward *et al.* 2019)[2]**
	Thaxter *et al.* (2012)	**Woodward *et al.* (2019)**	
Eider	80	21.5	Poor
Red-throated diver	9	9	Low
Fulmar	400 ± 245.8	542.3 ± 657.9	Good
Manx shearwater	18.3 ± 12.5 & >330	1,346.8 ±,1,018.7	Moderate
European storm petrel	n/a	336	Poor
Leach's storm petrel	91.7 ± 27.5	n/a	Moderate
Gannet	229.4 ± 124.3	315.2 ± 194.2	Highest
Cormorant	25 ± 10	25.6 ± 8.3	Moderate
Shag	14.5 ± 3.5	13.2 ± 10.5	Highest
Arctic skua	62.5 ± 17.2	n/a	Poor
Great skua	10.9 ± 3.0 & 86.4	443.3 ± 487.9	Uncertain
Black-headed gull	25.5 ± 20.5	18.5	Uncertain
Common gull	50	50	Poor
Mediterranean gull	20	20	Uncertain
Herring gull	61.1 ± 44	58.8 ± 26.8	Good
Lesser black-backed gull	141.0 ± 50.8	127 ± 109	Highest
Kittiwake	60.0 ± 23.3	156.1 ± 144.5	Good
Sandwich tern	49.0 ± 7.1	34.3 ± 23.2	Moderate
Roseate tern	16.6 ± 11.6	12.6 ± 10.6	Moderate

Species	Mean maximum[1] (km ± SD)		Confidence Level (Woodward *et al.* 2019)[2]
	Thaxter *et al.* (2012)	Woodward *et al.* (2019)	
Common tern	15.2 ± 11.2	18.0 ± 8.9	Good
Arctic tern	24.2 ± 6.3	25.7 ± 14.8	Good
Little tern	6.3 ± 2.4	5	Moderate
Guillemot	84.2 ± 50.1	73.2 ± 80.5	Highest
Razorbill	48.5 ± 35.0	88.7 ± 75.9	Good
Puffin	105.4 ± 46.0	137.1 ± 128.3	Good

Notes: 1. The maximum range reported in each study averaged across studies.
2. Confidence levels were assigned as follows: highest (based on >5 direct studies, graphs and standard deviation suggest relatively low variability between sites and hence higher confidence); good (based on >5 direct studies; graphs and standard deviation show wider variability between sites, hence lower confidence); moderate (between 2-5 direct studies); low (indirect measures or only one direct tracking study); uncertain (survey-based estimates); poor (few survey estimates or speculative data available).
Green indicates an increase in value or category and blue indicates a decrease in value or category. Unfilled cells indicate no substantial change.

The potential for interaction between any site with relevant qualifying interests has been reassessed using the updated foraging ranges in Woodward *et al.* (2019) following the same approach outlined in Section 3 of the AA Screening Report. It is noted that the puffin and kittiwake features referred to in relation to the Saltee Islands SPA and Helvick Head to Ballyquin SPA respectively are now included as a result of the updated foraging range data. More widely, the sites and species shown in Table 2 are now considered to be of relevance.

Table 2: Additional features assessed

Site code	Site name	Relevant qualifying interests	Physical presence	Underwater noise
IE0004002	Saltee Islands SPA	Atlantic puffin	✓	✓
		Black-legged kittiwake	✓	×
IE0004021	Old Head of Kinsale SPA	Razorbill	✓	✓
IE0004066	The Bull and The Cow Rocks SPA	Storm petrel	✓	×
		Black-legged kittiwake	✓	×
IE0004175	Deenish Island and Scariff Island SPA	Lesser black-backed gull	✓	×
		Storm petrel	✓	×
IE0004003	Puffin Island SPA	Storm petrel	✓	×
IE0004007	Skelligs SPA	Storm petrel	✓	×
IE0004008	Blasket Islands SPA	Storm petrel	✓	×
IE0004125	Magharee Islands SPA	Storm petrel	✓	×
IE0004154	Iveragh Peninsula SPA	Black-legged kittiwake	✓	×
IE0004192	Helvick Head to Ballyquin SPA	Razorbill	✓	✓
		Black-legged kittiwake	✓	×
		Herring gull	✓	×
IE0004022	Ballycotton Bay SPA	Common gull	✓	×
IE0004023	Ballymacoda Bay SPA	Common gull	✓	×
IE0004028	Blackwater Estuary SPA	Common gull	✓	×

Site code	Site name	Relevant qualifying interests	Physical presence	Underwater noise
IE0004030	Cork Harbour SPA	Common gull	✓	×
IE0004092	Tacumshin Lake SPA	Lesser black-backed gull	✓	×
IE0004190	Galley Head to Duneen Point SPA	Herring gull	✓	×
IE0004219	Courtmacsherry Bay SPA	Common gull	✓	×
Other states[1]				
UK9020328	Irish Sea Front	Manx shearwater	✓	✓
UK9014051	Skomer, Skokholm and the Seas off Pembrokeshire	Storm petrel	✓	×
UK9013121	Aberdaron Coast and Bardsey Island	Manx shearwater	✓	✓
UK9020291	Copeland Islands	Manx shearwater	✓	✓
UK9001341	Rum	Manx shearwater	✓	✓
UK9001031	St Kilda	Manx shearwater	✓	✓
ES0000144	Urdaibaiko itsasadarra / Ría de Urdaibai	Manx shearwater	✓	✓
ES0000318	Cabo Busto-Luanco	Manx shearwater	✓	✓
ES0000494	Espacio marino de Cabo Peñas	Manx shearwater	✓	✓
ES0000495	Espacio marino de Punta de Candelaria-Ría de Ortigueira-Estaca de Bares	Manx shearwater	✓	✓
ES0000497	Espacio marino de la Costa da Morte	Manx shearwater	✓	✓
ES0000499	Espacio marino de las Rías Baixas de Galicia	Manx shearwater	✓	✓
FR5312011	Iles Houat-Hoëdic	Manx shearwater	✓	✓
FR5412026	Pertuis charentais - Rochebonne	Manx shearwater	✓	✓
FR2510037	Chausey	Manx shearwater	✓	✓
FR2310045	Littoral seino-marin	Manx shearwater	✓	✓
FR5310011	Côte de Granit Rose-Sept Iles	Manx shearwater	✓	✓
FR5310072	Ouessant-Molène	Manx shearwater	✓	✓
FR2512001	Littoral augeron	Manx shearwater	✓	✓
FR2512005	Nord Bretagne DO	Manx shearwater	✓	✓
FR5212016	Mers Celtiques - Talus du golfe de Gascogne	Manx shearwater	✓	✓
		Storm petrel	✓	×
FR5212015	Secteur marin de l'île d'Yeu jusqu'au continent	Manx shearwater	✓	✓
FR5212013	Mor Braz	Manx shearwater	✓	✓
FR5310057	Archipel de Glénan	Manx shearwater	✓	✓
FR5310072	Ouessant-Molène	Manx shearwater	✓	✓

[1] UK data was obtained from the Joint Nature Conservation Committee (JNCC); those for other Member States of relevance were obtained from the European Environment Agency (EEA) - https://www.eea.europa.eu/data-and-maps/data/natura-11 - note that populations marked as "D" i.e. non-significant, were not included in the selection of relevant sites.

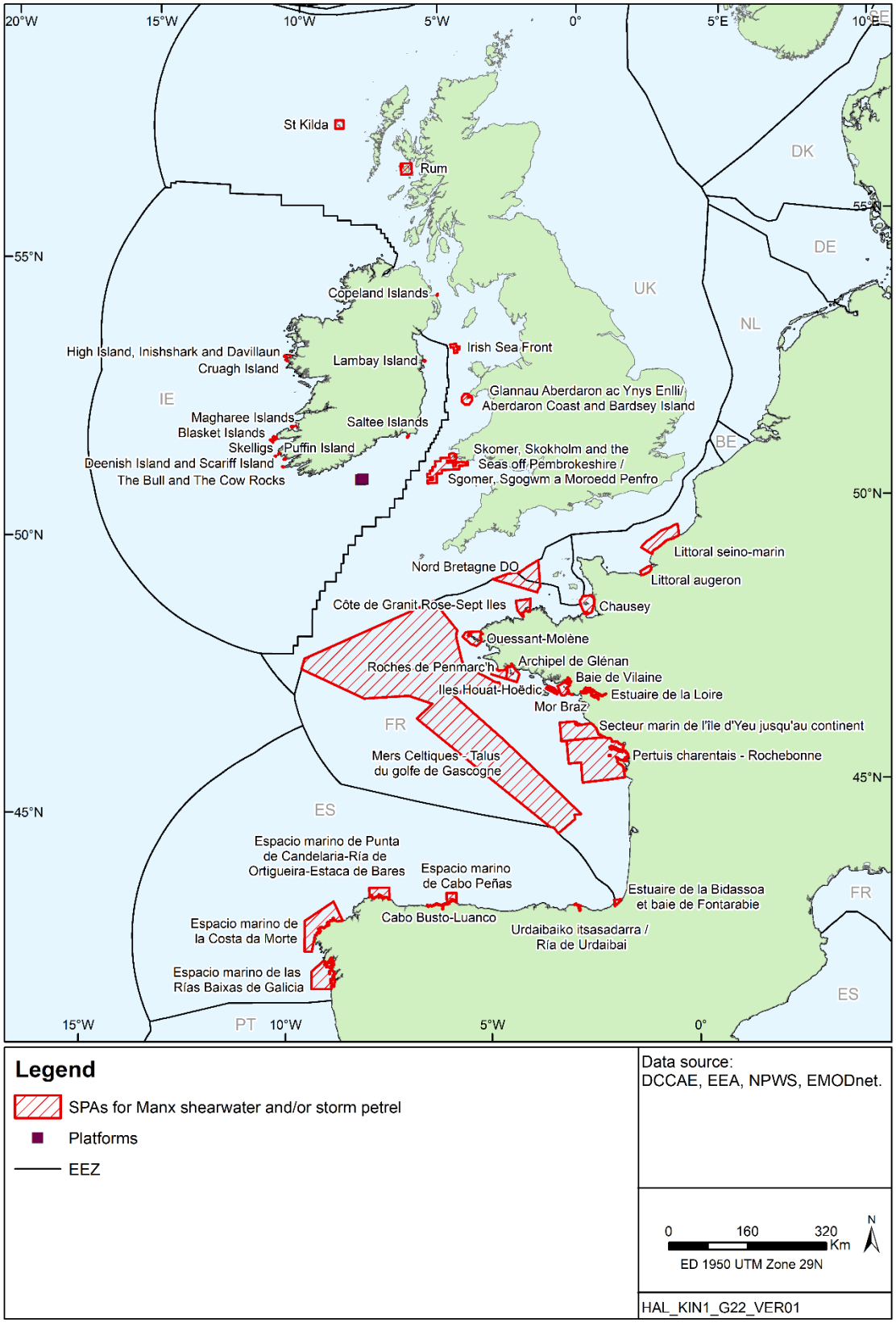
Site code	Site name	Relevant qualifying interests	Physical presence	Underwater noise
FR7212013	Estuaire de la Bidassoa et baie de Fontarabie	Manx shearwater	✓	✓
FR5310074	Baie de Vilaine	Manx shearwater	✓	✓
FR5312009	Roches de Penmarc'h	Manx shearwater	✓	✓
FR5210103	Estuaire de la Loire	Manx shearwater	✓	✓

The assessment in Section 4.2 of the AA screening document considers the potential for a likely significant effect to result for qualifying interests of relevant sites from the survey activities based on the available evidence in relation to physical presence and underwater noise (Sections 4.2.1 and 4.2.2 respectively). It is considered that the assessment provided therein is equally applicable to those additional sites and features listed in Table 2 above. For clarity, the summary of an assessment for the updated site/species included in Table 2 is provided below.

The revised foraging ranges presented in Woodward *et al.* (2019) generally show either a modest increase or decrease in range, though significant increases are noted for fulmar, gannet, great skua, kittiwake, razorbill, puffin and Manx shearwater, all reflected in the site screening in Table 2 above.

The mean maximum foraging range for Manx shearwater has increased very significantly to 1,346.8 ± 1,018.7km, which when applied as a means to identify sites for consideration in the screening results in a broad range of sites being selected as far north as St Kilda, and south to northern Spain (Figure 1). While the putative mean maximum foraging range of this species could theoretically result in individuals from very distant sites coming within the survey area, evidence suggests substantial variation in trip distance and range. For example, trips may vary by life stage (Fayet *et al.* 2015), and be substantially less during the chick-rearing period compared to the incubation period (Dean *et al.* 2015; however, note regular far-ranging activity presented in Wischnewski *et al.* 2019). Tracks (Wischnewski *et al.* 2019, Fayet *et al.* 2015) and density distributions (Dean *et al.* 2013, 2015, Fayat *et al.* 2015) suggest that for UK and Irish colonies studied, longer trips were to offshore waters of the North Atlantic, with higher levels of activity closer to colonies (note the ten-fold difference in mean (136.1±88.7km) and mean maximum (1,346.8 ±,1,018.7km) foraging range). On the basis of this evidence, it is considered that those sites identified for Manx shearwater in the AA Screening Report remain those of most relevance to the survey (Saltee Islands SPA, Puffin Island SPA, Skelligs SPA, Blasket Island SPA, Lambey Island SPA, Deenish Island and Scariff Island SPA, Skomer, Skokholm and the Seas off Pembrokeshire SPA). However, as part of a precautionary approach, those sites shown in Figure 1 are considered to be relevant to the screening for AA. The consideration made in the following sections relating to physical presence and underwater noise (noting that Manx shearwater are a deep diving species, which is outlined in Section 3.4.2 of the AA Screening Report), are applicable to those SPAs identified for the species, as listed in Table 2.

Figure 1: SPAs Included in the Screening for AA for Manx shearwater and European storm petrel



Woodward *et al.* (2019) include a mean maximum foraging range for the European storm petrel (not given in Thaxter *et al.*, 2012). A range of additional sites have now been screened in (see Table 2 and Figure 1) but as storm petrels are surface feeders they are not considered vulnerable to underwater noise.

Note that it is not considered that the additional features now identified for screening would be subject to potential in-combination effects with other plans or projects, and significant in-combination effects are therefore not considered to be likely.

Physical presence of the survey vessel

The physical presence of the survey vessel may potentially cause displacement and/or other behavioural responses in birds. Those species from relevant SPAs within foraging range of the survey area (Table 2) have been judged to have a low to moderate sensitivity to disturbance by shipping traffic; these include northern gannet, kittiwake, common gull, puffin, Manx shearwater, storm petrel and razorbill (Garthe & Hüppop 2004, MMO 2008, Soldatini *et al.* 2015, Fliessbach *et al.* 2019). While rafting birds which are qualifying interests of sites may move in response to vessels in transit, such effects are of low magnitude and short duration (the survey is anticipated to take less than one day but has been assessed on the basis that it could take up to one day). This will represent negligible additional disturbance over other existing vessel movements, including established routine supply and standby vessel activity at and around the KA and KB platforms, in addition to other vessel traffic including that of fishing, cargo and tankers. For example, a shipping study based on AIS data completed for IOSEA4 (DCENR 2011) indicated that generally up to 300-750 vessels per year were present in waters off the south coast of Ireland and in the vicinity of the survey area (see other data sources including MMO 2014 and subsequent data updates, and EMODnet 2019[2]).

In view of the available evidence on the potential for the survey activities to generate disturbance to qualifying bird interests of relevant sites for which a potential interaction was identified, **significant effects are not considered to be likely**.

Underwater noise

As noted in the AA Screening Report, information on the underwater hearing abilities of diving birds (of relevance here are puffin, razorbill and gannet) and evidence of the effects of underwater anthropogenic noise is very limited. Direct effects from underwater acoustic surveys on diving birds could potentially occur through physical damage, given exposure to sufficiently high amplitudes (which will not arise during the proposed Kinsale survey), or through behavioural disturbance. Deeper-diving and pursuit-diving species which spend longer periods of time underwater (e.g. auks) may be most at risk of exposure, but all species which routinely submerge in pursuit of prey in marine and estuarine habitats (i.e. also including divers *Gavia spp*., grebes, diving ducks, cormorant, shag, gannet, and Manx shearwater) may be exposed to anthropogenic noise.

With the exception of Pichegru *et al*. (2017), which provides evidence of short-term displacement of penguins, there are no published reports of changes in abundance or distribution of diving birds concurrent with seismic or other acoustic survey activity. A study investigated seabird abundance in Hudson Strait (Atlantic seaboard of Canada) during seismic surveys over three years (Stemp 1985). Comparing periods of shooting and non-shooting, no significant difference was observed in abundance of thick-billed murre (Brünnich's guillemot), fulmar or kittiwake.

[2] https://www.emodnet-humanactivities.eu/search-results.php?dataname=Vessel+Density+ and https://www.emodnet-humanactivities.eu/search-results.php?dataname=Route+density+%28source%3A+EMSA%29

While seabird responses to approaching vessels are highly variable (e.g. Fliessbach *et al*. 2019), flushing disturbance would be expected to displace most diving seabirds from close proximity to the survey vessel and any towed equipment, thereby limiting their exposure to the highest sound pressures generated. Similarly, any behavioural disturbance of seabirds due to the survey activities will be temporary displacement associated with the physical presence of the vessel, comparable to that experienced by routine shipping traffic (see above in relation to physical presence of the survey vessel).

In addition to the species already assessed in the AA Screening Report, based on the revised foraging ranges, several species of diving birds which are qualifying interests of relevant sites have the potential to forage within the Kinsale area (i.e. razorbill, northern gannet, Manx shearwater and puffin). The primary means of identifying relevant species and sites is based on their foraging ranges, but the predicted density distributions of the relevant species in the Kinsale area from the ObSERVE programme (Rogan *et al.* 2018) were further examined as part of preparation of this RFI response. These indicate that northern gannet and Manx shearwater are persistently the most abundant species seen in summer, and though not differentiated, auks generally have a lower abundance in the summer compared to winter. Modelled density distributions for razorbill (Cleasby *et al.* 2018) suggest their range tends to be more localised around the Saltee Islands SPA and Helvick Head to Ballyquin SPA, and do not extend out to the Kinsale area in summer.

While acknowledging limited data on the effects of underwater anthropogenic noise on diving birds, a consideration of the lack of reported effects of seismic or other geophysical survey, the comparatively lower amplitude source characteristics of the potential sources in the planned Kinsale survey, in addition to the small spatial footprint and short duration of the planned survey, leads to the conclusion that **significant effects on diving birds are considered to be highly unlikely.**

2.4 DCCAE Query 4

The discharges from the survey vessels are expected to include treated domestic effluents (comprising grey water, sewage and food waste) and surface drainage from decks. Atmospheric emissions from the survey vessel in transit are also expected and solid, domestic and operational wastes, as are normally associated with shipping activities, are not discussed or assessed in the AA Screening Report. In the submission from the Ship Source Pollution Prevention, Unit Irish Maritime Administration, Department of Transport, Tourism and Sport (Email to this Department dated 23rd April, 2020) on the survey applications, the responsibilities of the applicant are reiterated with regards to ship-source pollution prevention provisions under the MARPOL Convention and EU law, as applicable in national law, as follows: 'Management of ship waste (mainly oil, hazardous and polluting substances, sewage, garbage and polluting emissions to air) and of all cargo residues must be ensured as required under international (IMO), EU and national law. Under existing provisions, ships are obliged to discharge waste and cargo residues at port and ports are obliged to provide adequate facilities for their reception from ships.' Therefore, you are requested to submit an assessment of waste and emissions from the survey activities and the likely significant effects of same on European sites.

2.4.1 Response

The survey vessel will meet all relevant MARPOL requirements e.g. in relation to Annex I and Annex IV on the prevention of pollution by oil and sewage from ships respectively, under the Sea Pollution Act 1991 (as amended). The vessel will hold a Shipboard Oil Pollution

Emergency Plan (SOPEP) which is in accordance with guidelines issued by the Marine Environment Protection Committee of the International Maritime Organisation. Where relevant, it will also carry an International Sewage Pollution Prevention Certificate (see the Sea Pollution (Prevention of Pollution by Sewage from Ships) Regulations 2006).

Additionally, the vessel will meet MARPOL Annex V requirements. This includes the implementation of a Garbage Management Plan (under the Sea Pollution Act 1991, as amended, and the Sea Pollution (Prevention of Pollution by Garbage from Ships) Regulations 2012, as amended) which details specific waste management procedures, documents the segregation and safe handling and storage of waste and waste reduction measures. Wastes including litter will be retained on the vessel and disposed of at a suitable reception facility on return to shore.

There will be no significant discharges from the survey vessel, and any discharge would be consistent with obligations under MARPOL as implemented in Ireland, which effectively prevent pollution from such sources. Any such discharge would rapidly disperse in the marine environment given the water depths and currents in the survey location. In view of the distances (10s to 100s of km) to any relevant site boundary, any such discharges would not result in a likely significant effect on any relevant site or qualifying interest.

Atmospheric emissions from the vessel will be highly localised and minor in the context of wider existing shipping in relation to the Kinsale area facilities and the wider Celtic Sea. It is acknowledged that these emissions will result in an extremely small increment to existing contributions to reductions in local air quality (however, note that the survey will take place at least 45km offshore) and also global greenhouse gas loading, but in view of the scale and duration of the survey these are not considered to be significant. **There are no foreseeable sources of significant effect from emissions from the survey vessel, either in transit or at the survey location, alone or in-combination, for any qualifying interest of a relevant Natura 2000 site**.

2.5 Overall conclusions

In view of the additional information presented above in response to the queries posed by DCCAE, the conclusion of the Screening for Appropriate Assessment remains that the activities associated with the proposed survey will not result in any likely significant effects (either alone or in-combination with other plans or projects) on the features or conservation objectives of any relevant Natura 2000 site.

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