



Appropriate Assessment Report and Determination for Maritime Usage Licence Application

From

Microsoft Ireland Operations Ltd

FOR Geophysical survey and site investigations for proposed subsea fibre optic cable having
landfall in Portmarnock, County Dublin

Application Number No. LIC230018

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21st June 2024

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Statement of Authority

This Appropriate Assessment Report has been undertaken by the Assessment Research and Development Unit within MARA, a specialist unit with appropriate expertise in environmental assessment.

1 Introduction

1.1 Background

Microsoft Ireland Operations Ltd. submitted an application to MARA for a Maritime Usage Licence (MUL) to undertake geophysical surveys and site investigations for a proposed subsea fibre optic cable having a landfall in Portmarnock, County Dublin to evaluate options for the route traversing the Irish Sea to Abergele, Wales. The applicant submitted a Natura Impact Statement with their licence application in support of this appropriate assessment.

1.2 Legislative Context

This appropriate assessment report relates to a licence application for an activity in the maritime area in accordance with Part 5 of the Maritime Area Planning Act (2021, as amended). Section 117 of the Act sets out the requirements for MRA to undertake appropriate assessment in respect of proposed maritime usage. The EU Habitats Directive (Council Directive 92/43/EC) and Birds Directive (2009/147/EC) are transposed into Irish law by the European Communities (Birds and Natural Habitats) Regulations 2011 (as amended) and by Part XAB of the Planning and Development Act 2000 (as amended). Regulation 42 of the European Communities (Birds and Natural Habitats) Regulations 2011 (as amended) outline requirements for screening for appropriate assessment and for undertaking appropriate assessment. In addition, a 30-day public consultation is required on the Natura Impact Statement under Regulation 42 of the European Communities (Birds and Natural Habitats) Regulations, 2011.

1.3 Screening for Appropriate Assessment

MARA completed a screening for appropriate assessment and published an appropriate assessment screening determination on 24th April 2024. The determination stated that the proposal by Microsoft Ireland Operations Ltd to carry out a site investigation surveys, requires an appropriate assessment, as it cannot be excluded, on the basis of objective scientific information, following screening that the proposed activities, individually or in combination with other plans or projects, will have a significant effect on a European Site.

2 Description of proposed works

2.1 Project Description

The principal objective of the marine survey and site investigations is to ascertain a feasible and safe route for cable system design, deployment, survivability, and subsequent maintenance with due regard for environmental and ecological considerations. The survey will identify the necessary water depths, route features, seabed obstructions, seabed

geomorphology and cable hazards. The survey will also provide detailed information on the seabed sediment, subsurface stratigraphy and upper sediment layers to support cable route and installation engineering.

The applicant stated in their application that the survey would take less than 6 weeks to complete and would be undertaken over a 6-month period.

2.2 Location

The proposed survey area is situated off the coast of North Dublin, with proposed landfall sites in Portmarnock, Co. Dublin. The proposed survey corridor is 64.5km in length with a total area of 3,211 hectares (Figure 1).

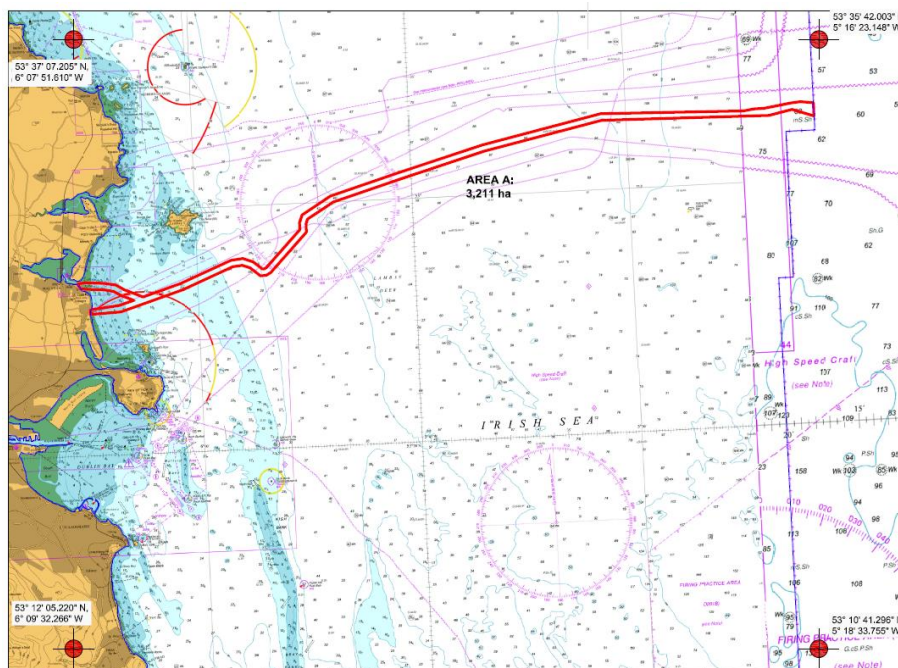


Figure 1: Map showing proposed licence area outlined in red.

2.3 Description of the Proposed Survey Works

The survey works will consist of a landfall survey (inter-tidal zone), an inshore survey (3m chart datum to 15m chart datum) and an offshore survey (water depths greater than 15m chart datum).

The landfall survey will consist of site investigations and a topographical survey. The topographical survey will typically be carried out using equipment to measure angles, calculate locations and distances e.g. GPS Rover, Total Station, LiDar. A terrestrial geophysical survey will be undertaken to establish features and depth to bedrock and any buried ferrous objects, using for example, magnetometer, ground penetrating radar or electrical resistivity tomography. The depth and nature of the sediment will be determined at a number of locations within the landfall area of the proposed licence area. These will consist of approximately 20 bar probes to a depth of 2 metres. There will also be 3 trial pits on the beach to a depth of 2.5m.

A seabed survey will take place in the inshore and offshore areas within the proposed licence area (Figure 1). The inshore survey will be undertaken using a small craft or unmanned survey

vessel. The offshore survey will be undertaken using the primary survey vessel. These surveys will help to determine the nature and density of the upper 3 metres of the seabed. The equipment used will include multibeam echo-sounder, sidescan sonar, marine magnetometer and sub-bottom profiler equipment. Table 1 details the marine survey equipment that will be used for the purposes of the proposed maritime activity.

Table 1: Geophysical survey equipment proposed for the site investigations, with frequencies and noise pressure levels.

Survey equipment	Purpose	Frequency	Noise pressure level (dB re 1µPa @ 1m)
Multibeam Echosounder	Collect topographical data of the seabed	200-500 kHz	210-245
Sub-bottom profiling	Boomer	0.5-15 kHz	205-215
	Parametric	4-15 kHz, 85-115 kHz	238-247, 200-206
	Pinger	2-15 kHz	214
	Chirper	2-13 kHz	185-215
Sidescan sonar	Determine sediment characteristics and seabed features	200-700 kHz	200-240
Magnetometer	Identifies magnetic anomalies, hazard mapping on the seabed	Passive device, no sound emitted	
Ultrashort Base line	Determine position of other equipment	20-50 kHz	194-207

The proposed maritime usage activity will also include marine site investigations and seabed sampling to evaluate the physical properties of the superficial seabed sediments along the cable route. This will consist of up to fifteen core penetration tests, twelve gravity cores and eleven grab samples (Table 2).

Table 2: Geotechnical survey equipment proposed for the site investigations, with frequencies and noise pressure levels.

Equipment Type	Purpose	Frequency Range	Maximum source pressure level (re 1µPa at 1m)
Cone penetration test	Determine seabed properties	28Hz	118-145
Gravity Core	Retrieve seabed sample using steel core barrel	N/A	N/A
Vibrocorer	Retrieve seabed sample using a vibrating steel core barrel	30Hz	187.4
Grab samples	Collect sediment samples from seabed surface using clamshell mechanism	N/A	N/A

3 European Sites and Qualifying Interests

3.1 Identification of European sites likely to be affected

The Screening for Appropriate Assessment Report identified 15 Irish sites, 6 British and 21 French sites which were considered to be within the Zone of Influence of the proposed maritime usage activity. The screening also identified 13 SPA sites which were considered to be within the Zone of Influence of the proposed maritime usage activity. These European

sites, their Qualifying Interests, Special Conservation Interests and possible impact as a result of the proposed project are given in Table 3 below.

3.2 Description of the Qualifying Interests and Special Conservation Interests (Birds) affected

The appropriate assessment screening identified harbour seal, grey seals, bottlenose dolphins and harbour porpoises as qualifying interests that may be impacted as a result of the proposed maritime usage. This appropriate assessment has been undertaken in light of the descriptions of the qualifying interests and special conservation interests on the NPWS website. All of these species have favourable conservation status in the Irish and British European sites selected. The harbour porpoise has *unfavourable* conservation status for the French SACs included in this assessment.

In addition, 35 bird species were identified as needing further assessment due to the possibility for those species to be significantly negatively affected by disturbance from above water noise, or underwater noise in the case of diving species (Table 3).

The NPWS reports the status of bird species every six years in accordance with the Birds Directive. The most recent data reported in 2019¹ showed negative trends in breeding populations for a number of the species identified for this appropriate assessment. These species are black-headed gull, common gull, herring gull and kittiwake.

¹ The Status of Ireland's Breeding Seabirds: Birds Directive Article 12 Reporting 2013-2018. <https://www.npws.ie/sites/default/files/publications/pdf/IWM114.pdf>

Table 3: Special Areas of Conservation, Special Protected Areas, qualifying interests and conservation objectives identified as requiring further assessment.

European Site Code	Distance from the Proposed Development (km)	List of Qualifying Interests	Potential source of impact	Conservation Objectives ²
Special Areas of conservation				
Rockabill to Dalkey SAC (Site Code IE003000)	Within site boundary	<i>Phocoena phocoena</i> (Harbour Porpoise) [1351]	Disturbance from underwater noise and vibration	To maintain favourable conservation condition of the Harbour porpoise (NPWS, 2013)
Codling Fault SAC (Site code IE003015)	3.7	<i>Phocoena phocoena</i> (Harbour Porpoise)[1351]	Disturbance from underwater noise and vibration	To maintain or restore favourable conservation conditions, in accordance with the Habitats Directive, for the harbour porpoise. No species specific conservation objective identified for this site.
Lambay Island SAC (Site Code IE000204)	10.4	<i>Phocoena phocoena</i> (Harbour Porpoise) [1351] <i>Halichoerus grypus</i> (Grey Seal) [1364] <i>Phoca vitulina</i> (Harbour Seal) [1365]	Disturbance from underwater noise and vibration	To maintain favourable conservation condition of the Grey seal and Harbour porpoise (NPWS, 2013).
Blackwater bank SAC [Site Code 002953]	Within JNCC management unit	<i>Phocoena phocoena</i> (Harbour Porpoise) [1351]	Disturbance from underwater noise and vibration	To maintain or restore favourable conservation conditions, in accordance with the Habitats Directive, for the harbour porpoise. No species specific conservation objective identified for this site.
Slaney River Valley SAC [Site code IE000781]	54	<i>Phoca vitulina</i> (Harbour Seal) [1365]	Disturbance from underwater noise and vibration	To maintain favourable conservation condition of the Harbour seal (NPWS, 2011).
Saltee Islands SAC [Site code IE0007071]	141	<i>Halichoerus grypus</i> (Grey Seal) [1364]	Disturbance from underwater noise and vibration	To maintain favourable conservation condition of the Grey seal (NPWS, 2011).

² In accordance with site specific conservation objectives as identified for protected sites by the National Parks and Wildlife Service <https://www.npws.ie/protected-sites>.

Roaringwater Bay and Islands SAC [Site code IE000101]	Within JNCC management unit	<i>Halichoerus grypus</i> (Grey Seal) [1364] <i>Phocoena phocoena</i> (Harbour Porpoise) [1351]	Disturbance from underwater noise and vibration	To maintain favourable conservation condition of the Grey seal and Harbour porpoise (NPWS, 2011).
Blasket Islands SAC [Site code: 002172]	Within JNCC management unit	<i>Phocoena phocoena</i> (Harbour Porpoise) [1351]	Disturbance from underwater noise and vibration	To maintain favourable conservation condition of the Harbour porpoise (NPWS, 2014)
Kenmare River SAC [Site Code IE002158]	Within JNCC management unit	<i>Phoca vitulina</i> (Harbour Seal) [1365] <i>Phocoena phocoena</i> (Harbour Porpoise) [1351]	Disturbance from underwater noise and vibration	To maintain favourable conservation condition of the Harbour seal (NPWS, 2013)
Carnsore Point SAC [Site Code IE 002269]	128	<i>Phocoena phocoena</i> (Harbour Porpoise) [1351]	Disturbance from underwater noise and vibration	To maintain or restore favourable conservation conditions, in accordance with the Habitats Directive, for the harbour porpoise. No species specific conservation objective identified for this site.
Hook Head SAC [Site code IE000764]	Within JNCC Management Units	<i>Tursiops truncatus</i> (Common Bottlenose Dolphin) [1349] <i>Phocoena phocoena</i> (Harbour Porpoise) [1351]	Disturbance from underwater noise and vibration	To maintain or restore favourable conservation conditions, in accordance with the Habitats Directive, for the harbour porpoise. No species specific conservation objective identified for this site.
Belgica Mound Province SAC [Site code IE002327]	Within JNCC Management Unit	<i>Phocoena phocoena</i> (Harbour Porpoise) [1351]	Disturbance from underwater noise and vibration	To maintain or restore favourable conservation conditions, in accordance with the Habitats Directive, for the harbour porpoise. No species specific conservation objective identified for this site.
Inishmore Island SAC [Site code IE 000213]	Within JNCC Management Unit	<i>Phocoena phocoena</i> (Harbour Porpoise) [1351]	Disturbance from underwater noise and vibration	To maintain or restore favourable conservation conditions, in accordance with the Habitats Directive, for the harbour porpoise. No species specific conservation objective identified for this site.
Kilkieran Bay and Islands SAC [IE002111]	Within JNCC management unit	<i>Phocoena phocoena</i> (Harbour Porpoise) [1351]	Disturbance from underwater noise and vibration	To maintain or restore favourable conservation conditions, in accordance with the Habitats Directive, for the harbour porpoise. No species specific

				conservation objective identified for this site.
West Connacht Coast SAC [Site code IE002998]	Within JNCC management unit	<i>Phocoena phocoena</i> (Harbour Porpoise) [1351]	Disturbance from underwater noise and vibration	To maintain or restore favourable conservation conditions, in accordance with the Habitats Directive, for the harbour porpoise. No species specific conservation objective identified for this site.
Bunduff Lough and Machair/ Trawalua/ Mullaghmore SAC [IE000625]	Within JNCC management unit	<i>Phocoena phocoena</i> (Harbour Porpoise) [1351]	Disturbance from underwater noise and vibration	To maintain or restore favourable conservation conditions, in accordance with the Habitats Directive, for the harbour porpoise. No species specific conservation objective identified for this site.
The Maidens [Site code UK0030384]	150	<i>Halichoerus grypus</i> (Grey Seal) [1364]	Disturbance from underwater noise and vibration	To maintain / restore the favourable conservation condition of Grey Seal.
Llyn Peninsula and the Sarnau / Pen Llyn a'r Sar [Site code UK0013117]	Within JNCC management unit	<i>Tursiops truncatus</i> (Common Bottlenose Dolphin) [1349] <i>Halichoerus grypus</i> (Grey Seal) [1364]	Disturbance from underwater noise and vibration	To maintain / restore the favourable conservation condition of Grey Seal and Bottlenose dolphin.
Cardigan Bay [Site code: UK0012712]	Within JNCC management unit	<i>Tursiops truncatus</i> (Common Bottlenose Dolphin) [1349]	Disturbance from underwater noise and vibration	To maintain / restore the favourable conservation condition of Bottlenose Dolphin.
North Anglesey Marine / Gogledd Môn Forol [Site code: UK 0030398]	Within JNCC management unit	<i>Phocoena phocoena</i> (Harbour Porpoise) [1351]	Disturbance from underwater noise and vibration	Ensure Harbour porpoise are a viable component of the site; there is no significant disturbance of the species; and the condition of supporting habitats and processes, and the availability of prey is maintained.
West Wales Marine / Gorllewin Cymru [UK 0030397]]	Within JNCC management unit	<i>Phocoena phocoena</i> (Harbour Porpoise) [1351]	Disturbance from underwater noise and vibration	Ensure Harbour porpoise are a viable component of the site; there is no significant disturbance of the species; and the condition

				of supporting habitats and processes, and the availability of prey is maintained.
Bristol Channel Approaches / Dynesfeydd Môr Hafren [UK003039]	Within JNCC management unit	<i>Phocoena phocoena</i> (Harbour Porpoise) [1351]	Disturbance from underwater noise and vibration	Ensure Harbour porpoise are a viable component of the site; there is no significant disturbance of the species; and the condition of supporting habitats and processes, and the availability of prey is maintained.
Récifs et landes de la Hague [FR2500084]	Within JNCC management unit	<i>Phocoena phocoena</i> (Harbour Porpoise) [1351]	Disturbance from underwater noise and vibration	To maintain (or restore where appropriate) the qualifying interests to favourable condition.
Anse de Vauville [FR2502019]	Within JNCC management unit	<i>Phocoena phocoena</i> (Harbour Porpoise) [1351]	Disturbance from underwater noise and vibration	To maintain (or restore where appropriate) the qualifying interests to favourable condition.
Banc et récifs de Surtainville [FR2502018]	Within JNCC management unit	<i>Phocoena phocoena</i> (Harbour Porpoise) [1351]	Disturbance from underwater noise and vibration	To maintain (or restore where appropriate) the qualifying interests to favourable condition.
Chausey [FR2500079]	Within JNCC management unit	<i>Phocoena phocoena</i> (Harbour Porpoise) [1351]	Disturbance from underwater noise and vibration	To maintain (or restore where appropriate) the qualifying interests to favourable condition.
Baie du Mont Saint-Michel [FR2500077]	Within JNCC management unit	<i>Phocoena phocoena</i> (Harbour Porpoise) [1351]	Disturbance from underwater noise and vibration	To maintain (or restore where appropriate) the qualifying interests to favourable condition.
Estuaire de la Rance [FR5300061]	Within JNCC management unit	<i>Phocoena phocoena</i> (Harbour Porpoise) [1351]	Disturbance from underwater noise and vibration	To maintain (or restore where appropriate) the qualifying interests to favourable condition.
Baie de Lancier, Baie de l'Arguenon, Archipel de Saint Malo et Dinard [FR5300012]	Within JNCC management unit	<i>Phocoena phocoena</i> (Harbour Porpoise) [1351]	Disturbance from underwater noise and vibration	To maintain (or restore where appropriate) the qualifying interests to favourable condition.

Cap d'Erquy-Cap Fréhel [FR5300011]	Within JNCC management unit	<i>Phocoena phocoena</i> (Harbour Porpoise) [1351]	Disturbance from underwater noise and vibration	To maintain (or restore where appropriate) the qualifying interests to favourable condition.
Baie de Saint-Brieuc – Est [FR5300066]	Within JNCC management unit	<i>Phocoena phocoena</i> (Harbour Porpoise) [1351]	Disturbance from underwater noise and vibration	To maintain (or restore where appropriate) the qualifying interests to favourable condition.
Tregor Goëlo Est [FR5300010]	Within JNCC management unit	<i>Phocoena phocoena</i> (Harbour Porpoise) [1351]	Disturbance from underwater noise and vibration	To maintain (or restore where appropriate) the qualifying interests to favourable condition.
Côte de Granit rose-Sept-Iles [FR5300009]	Within JNCC management unit	<i>Phocoena phocoena</i> (Harbour Porpoise) [1351]	Disturbance from underwater noise and vibration	To maintain (or restore where appropriate) the qualifying interests to favourable condition.
Nord Bretagne DH [FR2502022]	Within JNCC management unit	<i>Phocoena phocoena</i> (Harbour Porpoise) [1351]	Disturbance from underwater noise and vibration	To maintain (or restore where appropriate) the qualifying interests to favourable condition.
Baie de Morlaix [FR5300015]	Within JNCC management unit	<i>Phocoena phocoena</i> (Harbour Porpoise) [1351]	Disturbance from underwater noise and vibration	To maintain (or restore where appropriate) the qualifying interests to favourable condition.
Abers - Côte des legends [FR5300017]	Within JNCC management unit	<i>Phocoena phocoena</i> (Harbour Porpoise) [1351]	Disturbance from underwater noise and vibration	To maintain (or restore where appropriate) the qualifying interests to favourable condition.
Ouessant-Molène [FR5300018]	Within JNCC management unit	<i>Phocoena phocoena</i> (Harbour Porpoise) [1351]	Disturbance from underwater noise and vibration	To maintain (or restore where appropriate) the qualifying interests to favourable condition.
Côtes de Crozon [FR5302006]	Within JNCC management unit	<i>Phocoena phocoena</i> (Harbour Porpoise) [1351]	Disturbance from underwater noise and vibration	To maintain (or restore where appropriate) the qualifying interests to favourable condition.
Mer Celtiques-Talus du golfe des Gascogne Site code [FR5302015]	Within JNCC management unit	<i>Phocoena phocoena</i> (Harbour Porpoise) [1351]	Disturbance from underwater noise and vibration	To maintain (or restore where appropriate) the qualifying interests to favourable condition.

Rivière Leguer, forêts de Beffou, Coat an Noz et Coat an Hay [Site code FR5300008]	Within JNCC management unit	<i>Phocoena phocoena</i> (Harbour Porpoise) [1351]	Disturbance from underwater noise and vibration	To maintain (or restore where appropriate) the qualifying interests to favourable condition.
Chaussée de Sein [Site code FR5302007]	Within JNCC management unit	<i>Phocoena phocoena</i> (Harbour Porpoise) [1351]	Disturbance from underwater noise and vibration	To maintain (or restore where appropriate) the qualifying interests to favourable condition.
Récifs du talus du golfe de Gascogne [Site code FR5302016]	Within JNCC management unit	<i>Phocoena phocoena</i> (Harbour Porpoise) [1351]	Disturbance from underwater noise and vibration	To maintain (or restore where appropriate) the qualifying interests to favourable condition.
Special Protected Areas				
North West Irish Sea SPA [Site code: IE004236]	Within site boundary	Red-throated Diver (<i>Gavia stellata</i>) [A001] Great Northern Diver (<i>Gavia immer</i>) [A003] Fulmar (<i>Fulmarus glacialis</i>) [A009] Manx Shearwater (<i>Puffinus puffinus</i>) [A013] Cormorant (<i>Phalacrocorax carbo</i>) [A017] Shag (<i>Phalacrocorax aristotelis</i>) [A018] Common Scoter (<i>Melanitta nigra</i>) [A065] Little Gull (<i>Larus minutus</i>) [A177] Black-headed Gull (<i>Chroicocephalus ridibundus</i>) [A179] Common Gull (<i>Larus canus</i>) [A182] Lesser Black-backed Gull (<i>Larus fuscus</i>) [A183] Herring Gull (<i>Larus argentatus</i>) [A184] Great Black-backed Gull (<i>Larus marinus</i>) [A187] Kittiwake (<i>Rissa tridactyla</i>) [A188] Roseate Tern (<i>Sterna dougallii</i>) [A192] Common Tern (<i>Sterna hirundo</i>) [A193] Arctic Tern (<i>Sterna paradisaea</i>) [A194] Little Tern (<i>Sterna albifrons</i>) [A195] Guillemot (<i>Uria aalge</i>) [A199] Razorbill (<i>Alca torda</i>) [A200] Puffin (<i>Fratercula arctica</i>) [A204]	Disturbance from visual & above water noise disturbance	To maintain the favourable conservation condition of the qualifying interests (NPWS, 2023)
Malahide Estuary SPA [Site code: IE004025]	Within site boundary	Great Crested Grebe (<i>Podiceps cristatus</i>) [A005] Light-bellied Brent Goose (<i>Branta bernicla hrota</i>) [A046]	Disturbance from visual & above water noise disturbance	To maintain the favourable conservation condition of the bird

		<p>Shelduck (<i>Tadorna tadorna</i>) [A048] Pintail (<i>Anas acuta</i>) [A054] Goldeneye (<i>Bucephala clangula</i>) [A067] Red-breasted Merganser (<i>Mergus serrator</i>) [A069] Oystercatcher (<i>Haematopus ostralegus</i>) [A130] Golden Plover (<i>Pluvialis apricaria</i>) [A140] Grey Plover (<i>Pluvialis squatarola</i>) [A141] Knot (<i>Calidris canutus</i>) [A143] Dunlin (<i>Calidris alpina</i>) [A149] Black-tailed Godwit (<i>Limosa limosa</i>) [A156] Bar-tailed Godwit (<i>Limosa lapponica</i>) [A157] Redshank (<i>Tringa totanus</i>) [A162] Wetland and Waterbirds [A999]</p>		<p>species listed as Special Conservation Interests for this SPA.</p> <p>To maintain the favourable conservation condition of the wetland habitat in this SPA as a resource for the regularly-occurring migratory waterbirds that utilise it. (NPWS, 2013)</p>
Ireland's Eye SPA (Site Code IE004117)	2.2	<p>Herring Gull (<i>Larus argentatus</i>) [A184] Kittiwake (<i>Rissa tridactyla</i>) [A188] Cormorant (<i>Phalacrocorax carbo</i>) [A017] Guillemot (<i>Uria aalge</i>) [A199] Razorbill (<i>Alca torda</i>) [A200]</p>	Within site boundary	<p>To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA (NPWS, 2022)</p>
Lambay Island SPA (Site Code IE004069)	2.7	<p>Cormorant (<i>Phalacrocorax carbo</i>) [A017] Shag (<i>Phalacrocorax aristotelis</i>) [A018] Guillemot (<i>Uria aalge</i>) [A199] Razorbill (<i>Alca torda</i>) [A200] Puffin (<i>Fratercula arctica</i>) [A204] Kittiwake (<i>Rissa tridactyla</i>) [A188] Fulmar (<i>Fulmarus glacialis</i>) [A009] Lesser Black-backed Gull (<i>Larus fuscus</i>) [A183] Herring Gull (<i>Larus argentatus</i>) [A184]</p>	Within site boundary	<p>To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA (NPWS, 2022)</p>
North Bull Island SPA (Site Code IE004006)	4.5	<p>Black-headed Gull (<i>Chroicocephalus ridibundus</i>) [A179]</p>	Within site boundary	<p>To maintain the favourable conservation condition of black-headed gull in this SPA (NPWS, 2015)</p>
Howth Head Coast SPA (Site Code IE004113)	4.9	<p>Kittiwake (<i>Rissa tridactyla</i>) [A188]</p>	Yes	<p>To maintain or restore the favourable conservation condition of the bird species listed as Special</p>

				Conservation Interests for this SPA SPA (NPWS, 2022)
Rockabill SPA (Site code:004014)	12	Roseate Tern (<i>Sterna dougallii</i>) [A192] Common Tern (<i>Sterna hirundo</i>) [A193] Arctic Tern (<i>Sterna paradisaea</i>) [A194]	Yes	To maintain the favourable conservation condition of these birds in this SPA (NPWS, 2013)
Skerries Islands SPA (Site code: 004122)	15	Herring Gull (<i>Larus argentatus</i>) [A184]	Yes	To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA (NPWS, 2022)
River Nanny Estuary and Shore SPA (Site code: 004158)h	25	Herring Gull (<i>Larus argentatus</i>) [A184]	Yes	To maintain the favourable conservation condition of herring gull in this SPA (NPWS, 2012).
The Murrough SPA (Site code: 004186)	30	Black-headed Gull (<i>Chroicocephalus ridibundus</i>) [A179] Herring Gull (<i>Larus argentatus</i>) [A184]	Yes	To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA (NPWS, 2022).
Wickow Head SPA (Site code: 004127)	46	Kittiwake (<i>Rissa tridactyla</i>) [A188]	Yes	To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA (NPWS, 2022).
Dundalk Bay SPA (Site code: 004026)	49	Black-headed Gull (<i>Chroicocephalus ridibundus</i>) [A179] Common Gull (<i>Larus canus</i>) [A182] Herring Gull (<i>Larus argentatus</i>) [A184]	Yes	To maintain the favourable conservation condition of these birds in this SPA (NPWS, 2011).

3.2 Pressures and threats to Annex II species and Annex I species

The NPWS identified geotechnical surveying as a pressure and a threat to reaching and maintaining favourable conservation status of grey seals, harbour seal, harbour porpoise and bottlenose dolphins in the 2019 [Article 17 report](#) on *The Status of EU Protected Habitats and Species in Ireland* (Table 3).

Table 3: Pressures and threats on relevant Annex II species as assessed per NPWS Article 17 Report.

Species	Pressure	Threat
Grey seal[1364], Harbour seal [1365], Harbour porpoise [1351] and Bottlenose dolphin [1349]	C09 Geotechnical surveying (M) G01 Marine fish and shellfish harvesting (professional, recreational) causing reduction of species/prey populations and disturbance of species (M)	C09 Geotechnical surveying (M) G01 Marine fish and shellfish harvesting (professional, recreational) causing reduction of species/prey populations and disturbance of species (M)

The most recent [Article 12 report](#) *The Status of Ireland's Breeding Seabirds: Birds Directive Article 12 Reporting 2013-2018* identified the main pressures and threats to Annex I breeding seabirds. While none of these identified pressures or threats relate to this activity, it is important to note that seabird populations can face cumulative pressures and threats. The in-combination impacts of this project and other relevant projects are addressed in section 4.2 *Assessment of In-combination effects*.

4 Assessment and Mitigation

4.1 Assessment of Likely/Possible Significant Impacts on European Sites and their conservation interests

The impacts that have been identified that have the potential to cause significant impacts on European sites and their designated species or habitats are visual disturbance, underwater noise and above water noise. This disturbance may cause the displacement of individuals, changes in species behaviour, or the risk of morbidity or mortality. Any mitigation measures recommended on foot of the assessment in this section are included in Section 4.4 *Mitigation Measures*.

4.1.1 Disturbance due to underwater noise (marine mammals)

Marine mammals depend on sound for a wide range functions including navigation, perception of their environment, communication, prey identification and capture, and the detection of predators. The hearing system of marine mammals, being highly sensitive and adapted to respond to changes in pressure in an aquatic environment, is particularly susceptible to damage. Auditory injury in marine mammals can lead to non-reversible auditory injury or a shift in hearing sensitivity, which can have negative effects on the ability to communicate, navigate, or locate prey for a period of minutes, hours or days. The possibility of impact on marine mammals as a result of equipment proposed as per Tables 1 and 2 of this report, cannot be excluded. Therefore, it is recommended that suitable

mitigation measures be included in any Maritime Usage Licence relating to the proposed maritime usage activity.

4.1.2 Disturbance due to underwater noise (birds)

Diving birds such as Red-throated Diver, Great Northern Diver, Manx Shearwater, Cormorant and Shag can be sensitive to disturbance from underwater noise and fatalities can occur at close distance. Flushing disturbance can be expected to displace these diving seabirds from close proximity to the survey vessel and any towed equipment, thereby limiting their exposure to the highest sound pressures generated. The likelihood of these birds being in the vicinity of a noise generating operation is low due to the surface activity associated with such operations disturbing the birds prior to commencement of the underwater noise³. There is a low likelihood of interaction between the sound source and diving birds due to the relatively short exposure time when they dive, the temporary nature of the survey work, the mobile nature of the birds and the displacement of most diving species due to flushing disturbance. Therefore, it can be determined that underwater noise would be very unlikely to have a significant effect on diving seabirds in the vicinity of the survey area.

There is also a possible indirect impact from the proposed maritime usage activity on the supporting habitats of the proposed bird features of the SPAs through disturbance to marine benthic communities and habitat loss. This could impact the ability of foraging grounds to provide food for foraging birds. However, this is considered very unlikely as a result of this proposed maritime usage activity due to the relative size of the survey area disturbed in this manner in comparison to the overall foraging habitat available in the Irish Sea and the SPAs themselves. It is recommended that suitable mitigation measures be included in any Maritime Usage Licence relating to the proposed maritime usage activity.

4.1.3 Disturbance due to above water noise

Temporary displacement from boat activity and above water noise can be expected for bird species also. In the intertidal, disturbance is also possible to breeding and feeding birds due to noise and activity disturbance during the digging of trial pits and bar probes. This is unlikely to be significant, due to the temporary nature of the disturbance. It is recommended that suitable mitigation measures be included in any Maritime Usage Licence relating to the proposed maritime usage activity.

While it is acknowledged that the species which use the survey area for feeding and breeding may be disturbed by the activities of the survey vessel, visual or above water noise disturbance from up to two additional vessels in a busy maritime area is unlikely to be significant when considered against background levels. In-combination impacts in relation to disturbance are possible in relation to above water noise and bird activity due to the potential for other surveys and activities to occur at the same time in the same area, as outlined in section 4.2 *Assessment of In-combination effects*. However, given the short duration of the proposed site investigations, the significance of effects on birds in the offshore environment from the proposed site investigations, including due to visual or above water noise disturbance, will be temporary and therefore, will not be significant and no further mitigation is required.

³ <https://www.frontiersin.org/articles/10.3389/fmars.2019.00192/full>

4.1.4 Disturbance to foraging habitats

While the proposed marine usage activity is partly within a busy port area, there is a possible indirect impact from the proposed maritime usage activity on the supporting habitats of the proposed bird features of the SPAs through disturbance to marine benthic communities and habitat loss in the intertidal. This could impact the ability of foraging grounds to provide food for foraging birds. This is considered unlikely, due to the relative size of the survey area that could cause disturbance in this manner in comparison to the overall foraging habitat available in the Irish Sea and designated Natura 2000 sites themselves. While the likelihood is low, it is recommended that suitable mitigation measures be included in any Maritime Usage Licence relating to the proposed maritime usage activity.

4.1.5 Disturbance due to accidental incidents

It is proposed to carry out seabed surveys in both the inshore and offshore areas. The inshore survey will be undertaken using a small craft or unmanned survey vessel. The offshore survey will be undertaken using the primary survey vessel. The use of small craft or survey vessels present the risk of diesel or oil spills which can impact foraging ability, health and mortality of the birds identified as susceptible to potential impacts from the proposed project. While the risks associated with this form of disturbance is low, the impact could be significant and mitigation is required. Therefore, it is recommended that suitable mitigation measures be included in any Maritime Usage Licence relating to the proposed maritime usage activity.

4.2 Assessment of In-combination effects

Article 6(3) of the Habitats Directive requires that an Appropriate Assessment be carried out in respect of any plan or project which is likely to have a significant effect on one or more European sites, either individually or in combination with other plans or projects. Therefore, regardless of whether or not the likely or possible effects of a plan or project are significant when considered in isolation, the potential for the plan or project to significantly affect European sites in combination with other past, present or foreseeable future plans or projects must also be assessed. All types of plans or projects that could, in-combination with the project under consideration, have a significant effect, should be taken into account. This in-combination assessment has been undertaken using professional and scientific judgement

1. Defining the Cumulative Effects Spatial Scope (CESS)

Impacts of underwater noise associated with the proposed maritime usage are considered to have the widest spatial reach, with harbour porpoise being most sensitive to noise disturbance⁴. The CESS was defined at Appropriate Assessment screening stage as 5km, based on acoustic survey equipment effective deterrence ranges⁵.

2. Defining the Cumulative Effects Temporal Scope (CETS)

The temporal scope for examination of cumulative effects has been defined considering the period over which the proposed maritime usage would take place. The Natura Impact Statement states, it is anticipated that the proposed activities will take less than 6 weeks in

⁴ JNCC Guidance on Assessing the Significance of Noise Disturbance against Harbour Porpoise SACs Conservation Objectives (<https://data.jncc.gov.uk/data/2e60a9a0-4366-4971-9327-2bc409e09784/JNCC-Report-654-FINAL-WEB.pdf>)

⁵ Effective Deterrence Range – the radius of a circular area assumed to be disturbed.

total and will be completed over a 6-month period. A licence period of 2 years is recommended to allow for bad weather hampering completion of the proposed project in Summer 2024. Therefore, the Cumulative Effects Temporal Scope (CETS) is 2 years.

3. Impact identification

The impacts identified are:

- Disturbance from underwater noise
- Visual and above water noise disturbance
- Physical disturbance and habitat loss (indirect impact on supporting birds habitats)

4. Pathway Identification

Impact	Potential Cumulative Pathway
Disturbance from underwater noise	Pathway possible via sound travelling through water with impacts possible within CESS where there is temporal overlap with other underwater noise producing projects.
Visual and above water noise disturbance	Pathway possible via light and sound travelling through air with impacts possible within CESS where there is temporal overlap with other visual and above water noise producing projects.
Physical disturbance and habitat loss	Pathway requires direct spatial overlap. Potential pathway for physical disturbance and habitat loss impact where there is spatial and temporal overlap.

5. Prediction:

The magnitude and extent of identified likely cumulative effects have been predicted below.

Disturbance from underwater noise

There is the potential for increased underwater noise disturbance effects if geophysical activities with other projects were to take place at the same time.

Visual and above water noise disturbance

There is the potential for increased visual and above water noise disturbance if geotechnical activities with other projects were to take place at the same time.

Physical disturbance and habitat loss

The North-West Irish Sea and Malahide Estuary SPAs overlap with the Licence Area. There is a possible indirect impact from the proposed works on the supporting habitats of the conservation interests of the SPAs through disturbance to marine benthic communities and habitat loss impacting the ability of foraging grounds to provide food for foraging birds. Intrusive works undertaken by other projects may contribute to a possible indirect impact on the supporting habitats of the proposed bird features of the SPAs through disturbance to marine benthic communities and habitat loss impacting the ability of foraging grounds to provide food for foraging birds and will be considered further below.

There is the potential for increased physical disturbance and habitat loss if geotechnical activities with other projects were to take place at the same time.

6. Identification of Plans or Projects that could act in combination:

A search was carried out of relevant databases (e.g. EPA, Foreshore, MARA, planning authorities, *etc*) for other plans/projects with characteristics that may cause in-combination or cumulative effects with the project being assessed, on Natura 2000 sites. All plans and projects within the CESS and CETS have been identified. All projects within the CESS and CETS have been considered for their potential to cause cumulative effects in combination with the site investigation activities proposed under this Maritime Usage Licence Application, on the qualifying interests of Special Areas of Conservation and Special Protection Areas.

Following a search of relevant databases undertaken on the 19th of April 2024 as part of the Appropriate Assessment screening, the projects in Table 4 were identified as potential in-combination projects.

Table 4: Projects identified with the potential to cause in-combination effects with the project being assessed.

Application reference	Project	Approximate Distance from MUL Area	Project Status	Cumulative Effects
FS007635	Mares Connect Electricity Interconnector Site Investigation	Overlaps with Microsoft Portmarnock MUL application area	Proposed – application submitted 03/03/23	Spatial overlap. Within the CESS. Possible temporal overlap
FS007151	Proposed Sunrise Offshore Wind Farm, off Counties Dublin and Wicklow	Overlaps with Microsoft Portmanrock MUL application area	Proposed – Foreshore licence submitted 23/12/21	Spatial overlap. Within the CESS. Possible temporal overlap
FS007188	RWE Dublin Array Offshore Windfarm	Overlaps with Microsoft Portmarnock MUL application area	Proposed – Foreshore licence submitted 01/10/21	Spatial overlap. Within the CESS. Possible temporal overlap
FS007605	Irish water benthic Survey Benthic surveys of proposed outfall pipe	0.8km	Proposed – Foreshore licence submitted 25/11/22	Within the CESS. Possible temporal overlap
F20A/0576	Robswall Cottage, Coast Road, Malahide, Co. Dublin - mixed residential and demolition of an existing building	0.2km	Approved but not completed - licence granted 24/08/2023	No spatial overlap. Within the CESS. Possible temporal overlap

7. Cumulative Effects Assessment conclusion

Based on insufficient clarity on when projects will be carried out and using the precautionary principle all the above projects are considered to have potential in-combination effects should there be temporal overlap with the proposed maritime usage activity.

The following plans, related to the development of the maritime environment were also identified:

- Climate Action Plan 2023
- National Marine Planning Framework
- Draft River Basin Management Plan for Ireland (2022-2027)

These plans promote sustainable development and integrated management planning in the maritime environment. It is unlikely that any of these plans will result in a negative in-combination effect on the conservation objectives of the Natura 2000 sites.

It is not possible to exclude the possibility of likely significant in-combination effects on the conservation objectives of the Natura 2000 sites considered in this assessment as a result of this proposed maritime usage activity, the projects identified in Table 3 and the relevant plans listed above. Therefore, it is recommended that suitable mitigation measure be included in any Maritime Usage Licence relating to the possibility of likely significant in-combination effects.

4.3 Assessment of Transboundary effects

This proposed maritime usage relates to activity in Portmarnock, Co. Dublin. The mitigation measures proposed as part of this appropriate assessment will mitigate against any transboundary effects on the qualifying interests from the British and French protected sites.

4.4 Public consultation

A 30-day public consultation was undertaken commencing on 1st May 2024, with the public invited to make observations. In addition to the public consultation, observations were invited from relevant public bodies. No submissions were received on foot of the public consultation, while four submissions were received from relevant public bodies. These submissions have been considered as part of the appropriate assessment and are summarised in the Final Environmental Report associated with the licence application. One submission did raise the need to address cumulative impacts of this projects and similar projects in the Irish sea.

4.5 Mitigation Measures

Mitigation measures for those impacts identified in Section 4.1 *Assessment of Likely/Possible Significant Impacts on European Sites and their conservation interests* are detailed below.

4.5.1 Disturbance due to underwater noise (marine mammals)

Appropriate mitigation for the effects of underwater noise on marine mammals is the implementation of the NPWS [Guidance to manage the Risk to marine mammals from man-made sound sources in Irish Waters](#). When carrying out geotechnical and geophysical surveys particular attention should be paid to the sections of the guidance relating to drilling (in relation to seabed cores) and geophysical acoustic surveys. It is recommended a condition be included in any maritime usage licence that may be granted as follows:

Marine Mammals

- a. *The Holder shall appoint a Marine Mammal Observer for the purposes of overseeing the activity. The Marine Mammal Observer shall satisfy the requirements of the National Parks and Wildlife Service.*
- b. *The Holder shall implement risk control and mitigation measures for marine mammals in accordance with relevant National Parks and Wildlife guidance.*
- c. *All reporting should be forwarded to offshore@npws.gov.ie.*

4.5.2 Disturbance due to underwater noise (birds)

To minimise the potential for underwater noise related disturbance or displacement on the diving seabirds, it is recommended a condition be included in any maritime usage licence that may be granted as follows:

Birds

- a. *The movement of tracked vehicles in the intertidal area shall be restricted to minimum access tracks necessary to achieve completion of the Permitted Maritime Usage.*
- b. *Any trial pits excavated for the purposes of the Permitted Maritime Usage shall be re-filled.*
- c. *Where the Holder observes significant clusters of birds, actively fishing and/or diving, within 500m of the survey vessel, in carrying out the Permitted Maritime Usage, the survey route shall be altered to maintain a 500m buffer from the birds. Appropriate records must be retained by the Holder.*

To ensure appropriate records of the above mitigation measure are maintained, it is also recommended a condition be included in any maritime usage licence that may be granted as follows:

The Holder shall keep the following documents together and available for inspection by the Grantor:

- a. *a copy of the licence related to this Permitted Maritime Usage;*
- b. *all correspondence with the Grantor;*
- c. *up to date drawings, plans and maps relating to the Permitted Maritime Usage;*
- d. *documents and photographs and other relevant records relating to the Permitted Maritime Usage to provide evidence of compliance with licence conditions;*
- e. *marine positional log; and,*
- f. *any elements of the licence application and associated documentation referenced in this licence.*

4.5.3 Disturbance due to above water noise

The mitigation proposed in 4.5.2 above relating to under water disturbance to birds will also mitigate for any above water noise and survey related disturbance or displacement on seabirds in the intertidal.

No mitigation is required for birds relating to above water noise or survey disturbance in the offshore marine environment.

4.5.4 Disturbance due to accidental incidents

Mitigation is required to minimise the risk of impacts as a result of accidental spills from small craft or survey vessels. It is recommended a condition be included in any maritime usage licence that may be granted as follows:

Accidental events

The Holder shall ensure that there is an oil pollution emergency plan on-board any survey vessels. This plan should specify:

- a. Information on the location and detail of spill response resources on-board;*
- b. Information on crew training in relation to oil pollution response;*
- c. How crew will interface with other site investigation operators, where applicable.*

4.5.4 Disturbance to foraging habitats

Mitigation is required to minimise impacts on foraging habitats in the intertidal it is recommended a condition be included in any maritime usage licence in relation to this activity that may be granted as follows:

Landfall site/Intertidal

- i. The Holder shall ensure that an ecologist will be onsite during all terrestrial/intertidal surveys carried out as part of this Permitted Maritime Activity in order to minimise disturbance and ensure site integrity is maintained.*
- ii. Disturbance of drift lines and vegetation on the shore shall be avoided by machinery and personnel.*
- iii. Any temporary access arrangements or structures, that are put in place to allow machinery access to the shore area, shall be prepared or installed in consultation with the site ecologist. The site should be fully reinstated post works.*
- iv. Silt protection measures shall be put in place if deemed necessary by the project ecologist.*

Reason: *To ensure the protection of the marine environment.*

4.5.6 In-combination effects

To minimise any in-combination effects as a results of other projects or plans, it is recommended a condition be included in any maritime usage licence that may be granted as follows:

In-combination effects

- i. The Holder shall coordinate with other authorisation holders within a 10km radius of the site boundary to ensure that no temporal overlap occurs between projects in respect of geophysical, seismic and geotechnical activities.*
- ii. Where the Holder becomes aware of temporal overlap that cannot be resolved, the Holder shall notify the Grantor who shall determine the timing of activities.*


5 Appropriate Assessment Conclusion

The applicant provided a Natura Impact Statement (NIS) which detailed the potential impact of the proposed project on relevant European sites and whether these impacts would adversely affect the integrity of the sites in light of their conservation objectives. Sites not considered in the NIS but which the Appropriate Assessment screening identified for further assessment, were assessed in this report.

The Appropriate Assessment screening process identified likely/possible significant impacts due to disturbance from underwater noise from geophysical surveys on Annex II marine mammal species and Annex I bird species and disturbance from above water noise and survey activity for foraging bird species offshore and in the intertidal, as well as accidental incidents. These likely significant impacts could not be ruled out, beyond reasonable scientific doubt, without mitigation.

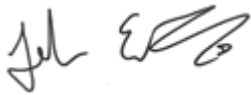
The potential direct and indirect effects as a result of visual and above water noise disturbance from surveys and underwater noise from geophysical and geotechnical surveys were identified as having the potential to cause in-combination impacts which could not be ruled out, beyond reasonable scientific doubt, without mitigation.

Mitigation measures were identified to ensure that impacts on European sites and their qualifying interests and special conservation interests do not occur. Therefore, with adherence to the mitigation measures specified in section 4.5 *Mitigation Measures*, and in view of best scientific knowledge, and of the sites' conservation objectives, the project, individually, or in-combination with other plans or projects, will not have adverse effects on European sites.

<p>Signature and Date of Recommending Marine Advisor</p>	 <p>Suzanne Wylde Senior Marine Advisor Assessment, Research and Data 21st June 2024</p>
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6 Appropriate Assessment Determination

Having considered this report, the documents submitted by Microsoft Ireland Operations Ltd, the observations received on foot of the public consultation on the application, along with my own assessment, it can be concluded, and I determine, for the purposes of Article 6(3) of the Habitats Directive and Regulation 42(11) of the Birds and Natural Habitats Regulations, that the *proposal for geophysical survey and site investigations for proposed subsea fibre optic cable having landfall in Portmarnock, County Dublin* (either individually or in combination with any other plans or projects), will not adversely affect the integrity of any European sites, in view of the sites' conservation objectives, subject to the implementation of the mitigation measures specified in section 4.5 *Mitigation Measures* adopted and outlined above, which must be included as conditions to any consent that may be granted in respect of the respective maritime usage licence application.

<p>Signature and Date of Decision Maker</p>	 <p>John Evans Director of Assessment, Research and Data 21st June 2024</p>
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