

Assessment, Research and Data Unit			
Appropriate Assessment Report and Determination for a Maritime Usage Licence			
To:	Maritime Authorisations Unit	From:	Dr. Micheál Mac Monagail Dr. Alison Mc Carthy Dr. Ciar O' Toole
Date	04/02/2026	Maritime Usage Licence Application No:	MUL250010
Approved for issue by:		John Evans	
Applicant:		Gas Networks Ireland, Gasworks Road, Cork, Ireland	
Type of maritime usage in accordance with Schedule 7 of the Maritime Area Planning Act, 2021:		<i>(3) Marine environmental surveys for the purposes of site investigation or in support of an application under Part XXI of the Act of 2000</i>	
Location of proposed Maritime Usage:		The surrounds of Foynes Island, Shannon Estuary adjacent to the townlands of Shannakea Beg, Cahiracon, Foynes Island, Leahys and Corrig.	
Licence application received:		28/07/2025	
Natura Impact Statement received:		28/07/2025	
Request for additional information (RAI) issued:		None	
RAI response received:		None	
Public consultation:		12/11/2025 to 15/12/2025	
Submissions from the public received:		Two	
Submissions from public bodies received:		Nine	

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Statement of Authority

This Appropriate Assessment Report has been undertaken by the Assessment, Research and Data (ARD) Unit within the Maritime Area Regulatory Authority (MARA), a specialist unit with appropriate expertise in environmental assessment.

1 Introduction

1.1 Background

In March 2025, the Government of Ireland gave approval to proceed with the development of a State-led strategic gas emergency reserve. The delivery of a temporary gas reserve is deemed critical to Ireland's energy security as we continue to transition to indigenous, clean renewable energy.

GNI (the applicant) has therefore applied to the Maritime Area Regulatory Authority (MARA) for a Maritime Usage Licence (MUL) to undertake marine environmental surveys for the purposes of site investigation, falling under Schedule 7(3) of the Maritime Area Planning Act 2021 (the MAP Act) to conduct marine Site Investigations (SI) and environmental surveys within the Shannon Estuary. The proposed maritime usage is required to provide baseline data that can contribute to a reliable basis for site selection and any subsequent design and environmental reports for any planning application made for the Strategic Gas Emergency Reserve Project.

1.2 Legislative Context

Part 5, Section 117 of the MAP Act sets out the requirements for MARA to undertake appropriate assessment in respect of a MUL application. The EU Habitats Directive (Council Directive 92/43/EC) and the Birds Directive (2009/147/EC) are transposed into Irish law by the European Communities (Birds and Natural Habitats) Regulations 2011, as amended (the Regulations) and by Part XAB of the Planning and Development Act 2000. The requirements for screening for appropriate assessment and for undertaking appropriate assessment are set out in Regulation 42 of the Regulations. Where appropriate assessment is required to be undertaken on a MUL application, a minimum 30-day public consultation period is required on the application and the Natura Impact Statement (NIS) under Section 117 of the MAP Act and in line with Regulation 42 of the Regulations.

1.3 Screening for Appropriate Assessment

MARA made an appropriate assessment (AA) screening determination on 28/10/2025. The AA screening determination concluded that the proposed maritime usage application will require appropriate assessment, as it cannot be excluded, on the basis of objective scientific information, that the proposed activities, individually or in combination with other plans or

projects, will have a significant effect on a European Site(s). Following MARA’s screening determination, the applicant submitted a Natura Impact Statement, submitted to MARA on 25 July 2025. The applicant undertook a period of public consultation on the application and the NIS from 12 November 2025 to 15 December 2025. MARA consulted with a number of public bodies in tandem with the public consultation period. These are detailed in the accompanying Maritime Usage Licence Assessment Report prepared by the ARD Unit.

2 Location and Proposed Maritime Usage

2.1 Site Location and Characteristics

The proposed maritime usage area covers an area of approx. 11.19km² and extends from the townland of Shannakea Beg along the Clare coast to Cahiracon across the Shannon Estuary to Shannon Foynes Island and along the Limerick coast to the townland of Leahys and Corgrig (Figure 1). Table 1 shows the proposed maritime usage activities, with duration, number of samples and maximum footprint. The proposed maritime usage, as applied for, is proposed to occur in two phases, Phase One taking up to 16 weeks and Phase Two taking a similar amount of time at a later date. The applicant has applied for a licence duration of five years to allow for delays in carrying out the two phases.

Table 1: Proposed maritime usage activities, with duration, number of samples and maximum footprint.

Maximum Survey Activity	Total time for activity	Maximum number of samples	Maximum total footprint per intrusive activity (km ²)
Geophysical survey – all types	Up to 4 months	Side Scan Sonar (SSS), Magnetometer, Sub Bottom Profilers (Parametric, Boomer and Chirper): 20 m spacing of main lines and 100 m spacing of cross lines with 25% overlap onto neighbouring lines Multibeam Echo Sounder (MBES): 5 -20 m line spacing	Area up to 2.155
Marine Refraction-Seismic	Up to 4 months	20 m line spacing	Area up to 2.155
Marine Electrical Resistivity Tomography (ERT)	Up to 4 months	20 maximum ERT lines	0.0000063
Marine Environmental and Ecological Surveys	Up to 4 months	Habitat surveys including drop down camera/drone surveys 120 subtidal (30 no. grab locations with max 4 samples taken at each location)	0.000024

		120 intertidal (30 no. grab locations with max 4 samples taken at each location)	
Archaeological	Up to 4 months	Intertidal walkover with metal detector. Drop down camera and dive surveys	
Geotechnical: Drop down video	Up to 4 months	30 transects of up to 30 metres	0.0009
Geotechnical: Boreholes	Up to 4 months	80 boreholes of diameter of 300mm, up to 50m below bed level	0.00000568
Cone Penetration Tests (CPTs)	Up to 4 months	80 CPTs of up to 20m below bed level	0.0000001216
Jack-up barge use	Up to 4 months	640 leg locations (80x borehole and 80 x CPT locations x 4 legs)	0.00064
Geotechnical: Grab samples	Up to 4 months	50 grabs of 0.1m ²	0.000005
6 x Metocean monitoring buoys	Maximum of 24 months (2 years)	12 anchors (2 per buoy)	0.000048

2.2 Brief description of the site characteristics

The estuary is characterised by large areas of intertidal mudflats and fringing saltmarsh. The sediment in the area is largely coarse sand, with benthic faunal biodiversity increasing in more sheltered areas. The area has sheltered conditions and water depths ranging from the intertidal to around 50m below chart datum. The proposed MUL application area overlaps with qualifying interests in the Lower River Shannon SAC. The Shannon Estuary is also a busy commercial channel, with Shannon Foynes Port, Aughinish Alumina and Limerick Port. The proposed Maritime Usage area includes part of Shannon Foynes Port.

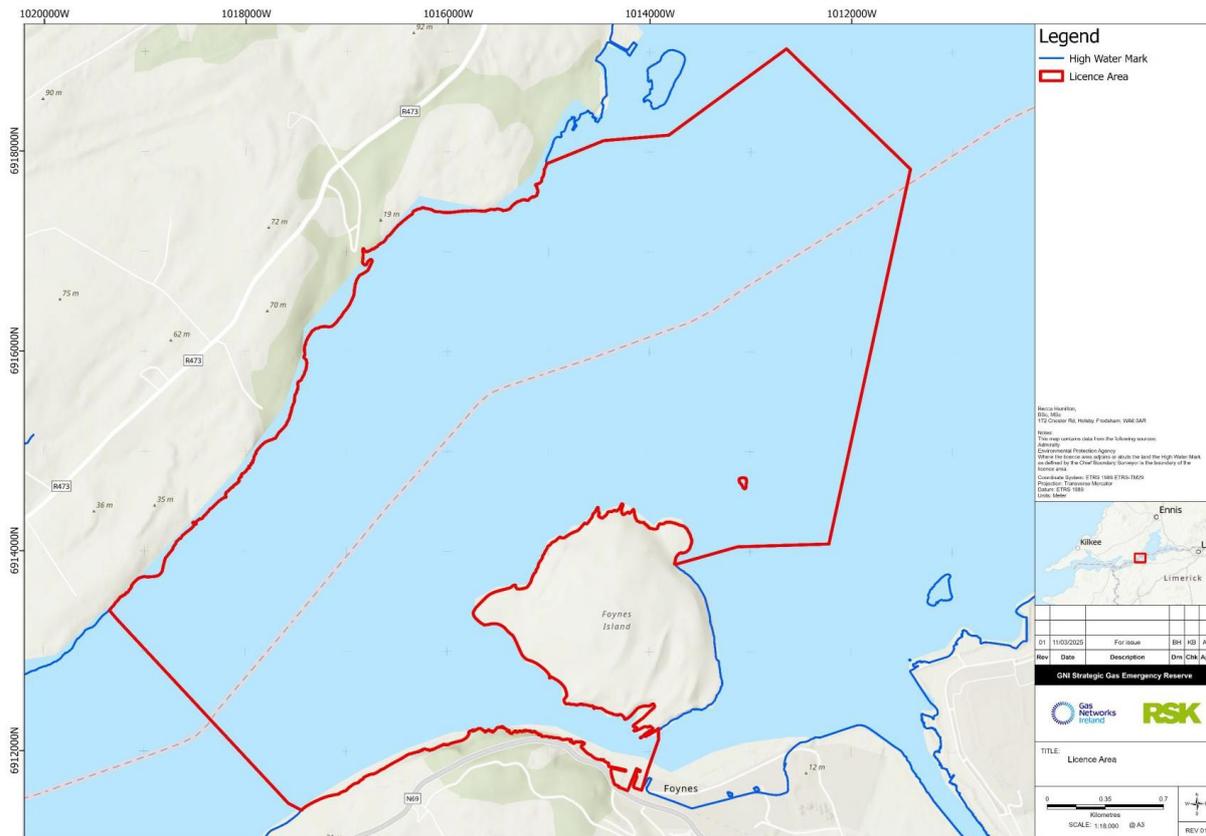


Figure 1: Proposed maritime usage area outlined in red.

3 European Sites and Qualifying Interests

3.1 Identification of European sites likely to be affected

Site-specific conservation objectives for sites, habitats and species listed in Table 3 were used when considering potential impacts of the proposed activity. Details of these sites are available on the NPWS website (<https://www.npws.ie/protected-sites>). Eight European Sites were screened in for appropriate assessment (AA) as part of MARA’s appropriate assessment screening determination dated 28/10/2025. This included seven Special Areas of Conservation (SACs) and one Special Protection Areas (SPAs).

These European sites, their Qualifying Interests (also referred to as Special Conservation Interests or SCIs for the SPA sites) and likely or potential source of impact as a result of the proposed site investigation activities are given in Table 3 below. Pressures and threats for all Qualifying Interests and Species of Conservation Interests are considered in the Article 12¹ and Article 17² reports produced by the NPWS and are considered when assessing potential impacts of the proposed maritime usage.

¹ <https://www.npws.ie/status-and-trends-ireland%E2%80%99s-bird-species-%E2%80%93-article-12-reporting>

² <https://www.npws.ie/publications/article-17-reports/article-17-reports-2025>

The distances given in Table 3 are from the MUL application area which is the red line boundary shown on Figure 1. The potential source of impact identified at the screening stage and possible significance of those impacts on the Qualifying Interests (QIs) are summarised in Table 2.

Table 2: Potential direct and indirect impacts on the Qualifying Interests of European sites identified at screening stage and possible significance of those impacts.

Potential Impacts	Possible significance of potential impacts (duration, magnitude, etc.)
Physical disturbance and habitat loss	Possible temporal impacts on habitats in terms of physical disturbance due to proposed MUL activities. Potential for habitat loss to reef and estuarine habitats.
Increase in sedimentation	An increase in suspended sediments from survey activities could impact migratory fish species, or their prey species of birds and marine mammals.
Disturbance from underwater noise	Potential for sound sources from survey activities to be at a level and duration that would cause a significant negative impact on marine mammals, fish and bird populations.
Visual & above water noise, vibration, human presence disturbance	Potential for survey activities generating noise, vibration and increased human presence or vessel activity to be at an intensity and duration that would cause significant disturbance to bird populations, marine mammals and otters.
Collision risk	Potential for impact if collisions occur on resident Bottlenose dolphin population within Shannon estuary.

Table 3: European sites and qualifying interests which were screened in for appropriate assessment along with potential source of impact and site-specific conservation objectives.

European Site Code	Distance from the MUL area (km)	List of Qualifying Interests	Potential source of impact	Site specific conservation objective
Lower River Shannon SAC [Site Code IE002165]	Within site boundary	Estuaries [1130] Reefs [1170] <i>Margaritifera margaritifera</i> (Freshwater Pearl Mussel) [1029] <i>Petromyzon marinus</i> (Sea Lamprey) [1095] <i>Lampetra planeri</i> (Brook Lamprey) [1096] <i>Lampetra fluviatilis</i> (River Lamprey) [1099] <i>Salmo salar</i> (Salmon) [1106] <i>Tursiops truncatus</i> (Common Bottle-nose Dolphin) [1349] <i>Lutra lutra</i> (Otter) [1355]	Possible physical disturbance and habitat loss, possible increased suspended sediment concentrations, possible disturbance from above and underwater noise, possible collision risk to cetaceans.	NPWS (2012) Conservation Objectives: Lower River Shannon SAC 002165. Version 1.0. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.
Blasket Islands SAC [Site code IE002172]	117km	<i>Phocoena phocoena</i> (Harbour Porpoise) [1351]	Possible disturbance from underwater noise possible collision risk to cetaceans.	NPWS (2014) Conservation Objectives: Blasket Islands SAC 002172. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.
Slyne Head Islands SAC [Site code IE000328]	167km	<i>Tursiops truncatus</i> (Common Bottlenose Dolphin) [1349]	Possible disturbance from underwater noise possible collision risk to cetaceans.	NPWS (2024) Conservation Objectives: Slyne Head Islands SAC 000328. Version 2. National

				Parks and Wildlife Service, Department of Housing, Local Government and Heritage.
Slyne Head Peninsula SAC [Site code IE002074]	169km	<i>Tursiops truncatus</i> (Common Bottlenose Dolphin) [1349]	Possible disturbance from underwater noise possible collision risk to cetaceans.	NPWS (2015) Conservation Objectives: Slyne Head Peninsula SAC 002074. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.
West Connacht Coast SAC [Site code IE002998]	170 km	<i>Tursiops truncatus</i> (Common Bottlenose Dolphin) [1349] <i>Phocoena phocoena</i> (Harbour Porpoise) [1351]	Possible disturbance from underwater noise possible collision risk to cetaceans	NPWS (2025) Conservation Objectives: West Connacht Coast SAC 002998. Version 2. National Parks and Wildlife Service, Department of Housing, Local Government and Heritage.
Duvillaun Islands SAC [Site code IE000495]	245 km	<i>Tursiops truncatus</i> (Common Bottlenose Dolphin) [1349]	Possible disturbance from underwater noise possible collision risk to cetaceans	NPWS (2024) Conservation Objectives: Duvillaun Islands SAC 000495. Version 2. National Parks and Wildlife Service, Department of Housing, Local Government and Heritage.

<p>Roaringwater Bay and Islands SAC [Site code IE000101]</p>	<p>245 km</p>	<p><i>Phocoena phocoena</i> (Harbour Porpoise) [1351]</p>	<p>Possible disturbance from underwater noise possible collision risk to cetaceans</p>	<p>NPWS (2011) Conservation Objectives: Roaringwater Bay and Islands SAC IE000101. Version 1. National Parks and Wildlife Service, Department of Housing, Local Government and Heritage.</p>
<p>River Shannon and River Fergus Estuaries SPA [Site code IE004077]</p>	<p>Within SPA boundary</p>	<p>Cormorant (<i>Phalacrocorax carbo</i>) [A017] Whooper Swan (<i>Cygnus cygnus</i>) [A038] Light-bellied Brent Goose (<i>Branta bernicla hrota</i>) [A046] Shelduck (<i>Tadorna tadorna</i>) [A048] Wigeon (<i>Anas penelope</i>) [A050] Teal (<i>Anas crecca</i>) [A052] Pintail (<i>Anas acuta</i>) [A054] Shoveler (<i>Anas clypeata</i>) [A056] Scaup (<i>Aythya marila</i>) [A062] Ringed Plover (<i>Charadrius hiaticula</i>) [A137] Golden Plover (<i>Pluvialis apricaria</i>) [A140] Grey Plover (<i>Pluvialis squatarola</i>) [A141] Lapwing (<i>Vanellus vanellus</i>) [A142] 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] Curlew (<i>Numenius arquata</i>) [A160] Redshank (<i>Tringa totanus</i>) [A162] Greenshank (<i>Tringa nebularia</i>) [A164] Black-headed Gull (<i>Chroicocephalus ridibundus</i>) [A179] Wetland and Waterbirds [A999]</p>	<p>Possible visual & above water noise disturbance and disturbance from underwater noise</p>	<p>NPWS (2012) Conservation Objectives: River Shannon and River Fergus Estuaries SPA 004077. Version 1.0. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.</p>

4 Assessment and Mitigation

4.1 Assessment of Likely/Possible Impacts on European Sites

The impacts that have been identified that have the potential to cause significant impacts on European sites and their designated species or habitats are physical disturbance and habitat loss, an increase in sedimentation, disturbance from underwater noise, visual and above water noise, vibration and human presence disturbance and collision risk (see Table 2 for more detail). This section discusses those impacts individually. Any mitigation measures recommended on foot of the assessment in this section are included in Section 4.6 - Mitigation Measures.

4.1.1 Loss of habitat area, habitat degradation, habitat disturbance

The application proposes only to carry out geotechnical activity within the Lower River Shannon SAC (See Figure 2). Within this SAC, the activities proposed include geophysical surveys, Marine Refraction and Electrical Resistivity Tomography activities, Environmental and Ecological Surveys, Archaeological and Geotechnical surveys, as well as Geotechnical activity including boreholes, cone penetration tests, grab samples, monitoring buoys and the installation of a jack-up barge, as shown in Table 1. These activities will occur in the subtidal and intertidal. There is potential for loss and/or disturbance of marine habitats arising from geotechnical sampling activities. In addition to direct habitat loss associated with collection of samples, temporary habitat disturbance may occur due to the placement of jack-up barge legs, anchoring of metocean monitoring buoys, and the deployment of seabed equipment during certain geophysical surveys.

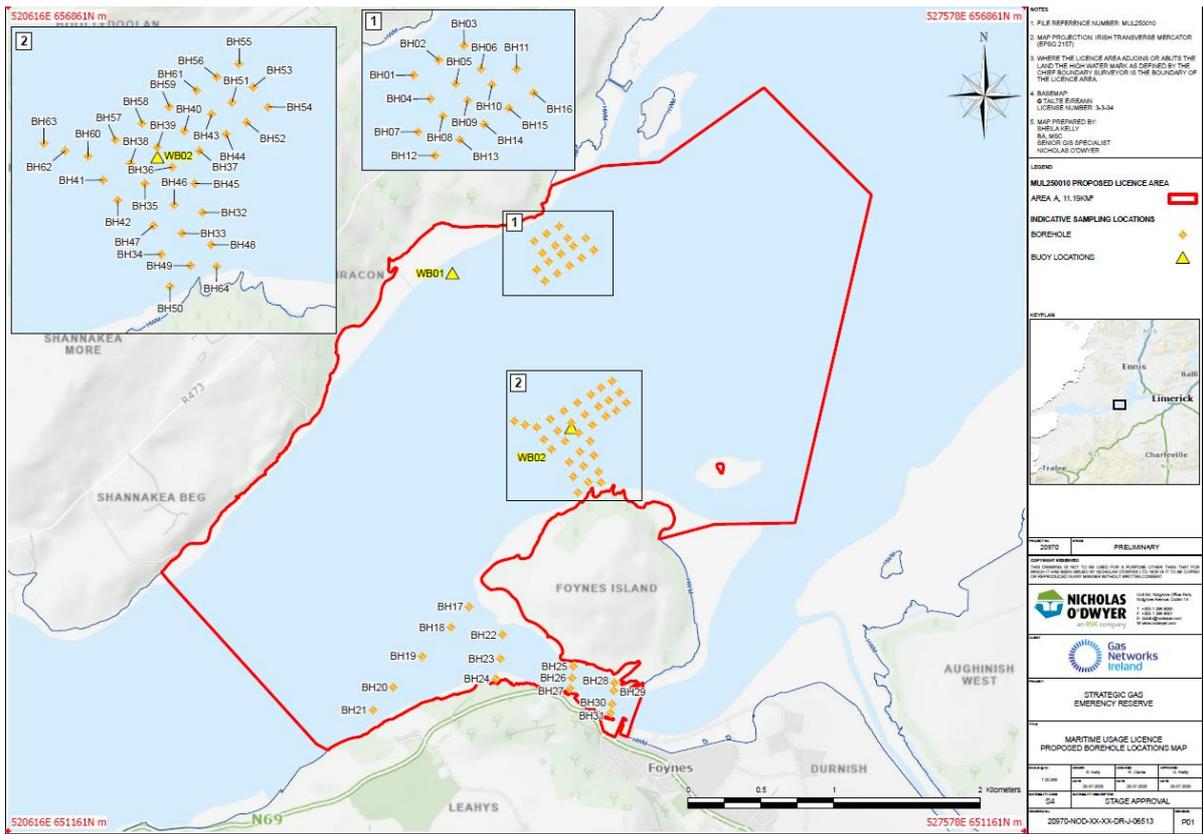


Figure 2: Proposed borehole locations.

Relevant habitats are mudflats and sandflats not covered by seawater at low tide, estuaries and reefs. The total affected habitat within the proposed MUL area will be small (refer to Table 1 for total footprint) and represent a small proportion of the total areas of the relevant Annex I habitats.

Most activity will occur on the estuary, dominated by subtidal sand to mixed sediment with *Nucula nucleus* community complex and subtidal sand to mixed sediment with *Nephtys* spp. community complex, and this disturbance does not reflect a permanent loss, as the habitat type will allow for the refilling of the boreholes, grabs and cone penetration tests after the activity has ceased.

Intertidal and subtidal environmental and ecological survey work will cause temporary disturbance to habitats, namely estuaries. Cone Penetration Tests will cause temporary impact to estuaries. One borehole is proposed on mudflats and sandflats not covered by seawater at low tide, resulting in temporary disturbance due to the proposed activity, but the limited area (diameter of 300mm) of the borehole means there will be no significant impacts. The feet of the jack-up rig from which the works will take place will cover an area of 1 m² each (for a combined total of 4 m²). Any impacts associated with the deployment of the jack-up barge legs will be temporary and confined to the period of operation, with no long-term effects on the seabed. The nature and scale of the disturbance is expected to be comparable

to those arising from the anchoring of the metocean monitoring buoys within the relevant habitat (estuary) and will not result in significant habitat loss or alteration. Accordingly, the use of the jack-up barge and its legs and the metocean monitoring buoy anchors is not considered to give rise to any significant habitat loss within the Lower Shannon Estuary SAC.

There may be some temporary habitat disturbance, but this is not considered significant, and no specific mitigation is required as a result. Crucially, the applicant has stated that sampling will avoid the known subtidal reef in the deepest waters in the centre of the estuary as well as intertidal reef to either side of the Cahiracon point and along the west side of Foynes Island. Mitigation will be required to ensure that such reef habitats are avoided.

It is possible that the proposed personnel accessing and using the intertidal area could cause some habitat disturbance or habitat degradation, particularly to reefs. Therefore, mitigation measures are required to offset potential negative impacts on this qualifying habitat type, primarily by ensuring all personnel and equipment only use existing established access routes to gain access to the intertidal area. It is also recommended to include a condition in any licence granted to ensure that an ecologist is present onsite during all intertidal surveys carried out in order to minimise disturbance and ensure site integrity is maintained. These mitigations will be outlined in Section 4.6 below.

The proposed grab and intertidal core sampling will involve the removal of up to 0.1m² of surface material at each sampling location. Given the very limited spatial extent of this disturbance, and the avoidance of sampling overlapping with intertidal or subtidal reefs, it is not considered likely that the proposed works will give rise to significant effects on any Annex I habitats within the SAC. Similarly, cone penetration testing, with a diameter of 44 mm, represents a highly localised disturbance and is likewise not considered to have the potential to result in significant effects on Annex I habitats within the SAC.

On the basis of this assessment, the proposed SI works are not considered likely to adversely affect the integrity of any European site through habitat loss, in the absence of any mitigation measures.

The placement of temporary survey equipment on the seabed is expected to cause only temporary disturbance, with minimal impact to the seafloor habitat.

4.1.2 Disturbance from underwater noise

It is proposed to carry out geophysical survey work in the subtidal area. The appropriate assessment screening report and determination made by MARA identified the potential for underwater sound sources from survey activities to have the potential to be at a level and duration that would cause a significant negative impact on the QIs (marine mammals, and birds) at a number of European sites (see Table 3).

Marine mammals

A number of European sites were screened in due to the potential for underwater noise to impact on Harbour porpoise, Bottlenose dolphin, and Otter which are QI species from these sites (see Table 3). It is possible that Harbour porpoise, Bottlenose dolphin, or otter from the other European sites would forage within the MUL application area and may be indirectly impacted.

Marine mammals depend on sound for a wide range of functions including navigation, perception of their environment, communication, prey identification and capture, and the detection of predators. The production of underwater noise from the proposed Marine environmental surveys could interfere with these functions by inducing permanent auditory injury (or Permanent Threshold Shift) at close range or temporary hearing impairment (or Temporary Threshold Shift – TTS) and disturbance at further distances from the noise source. The Shannon Estuary supports a genetically discrete, resident population of 145 bottlenose dolphins (*Tursiops truncatus*), a QI of the Lower River Shannon SAC. In line with SAC Conservation Objectives to avoid disturbances and maintain access to habitat, and in the absence of site-specific underwater noise modelling, a precautionary 500 m monitoring and mitigation zone shall apply to parametric sub profiler surveys and a 1000 m monitoring zone around marine refracted seismic surveys, consistent with DAHG (2014) guidance.

In line with DAHG (2014) guidance, a pre-start mitigation zone of up to 1000m from the sound source shall be monitored by a trained Marine Mammal Observer (MMO) prior to commencement of acoustic survey activities to confirm the absence of bottlenose dolphins and other marine mammals within the monitoring zone. Should cetaceans be detected within this mitigation zone during pre-start watch, commencement of sound producing activities will be delayed until the animals have moved beyond the monitoring zone. Once survey operations have been initiated following satisfactory pre-start monitoring and soft-start procedures, there is no requirement to shut down operations if marine mammals are subsequently observed in the monitoring zone. Continuous monitoring should however be maintained to record sightings. This approach supports the Lower River Shannon SAC by minimising the risk of disturbance and acoustic injury while allowing continuous surveys within the MUL area.

In addition to marine mammals, otters are also protected in the Lower River Shannon SAC. The shoreline around the area of the proposed maritime usage is a well-known commuting

corridor for the otters. However, given the busy nature of the site, it is considered that any otters in the vicinity would likely be habituated to the levels of disturbance that prevail in the area.

Atlantic salmon and species of lamprey are protected within the Lower River Shannon SAC also. These fish all have the potential to migrate through the area around Cahiracon and Foynes Island during the migratory phases of their life cycle. However, notwithstanding this, it is not expected that these fish, in particular salmon, would be present in the brackish waters of the estuary for considerable periods of time. An implemented ramp up (soft start) procedure for marine mammal noise mitigation will similarly enable fish in the area an opportunity to disperse from the sound source and avoid injury. Considering the short-term nature of the proposed maritime usage, coupled with the mitigation measures, it is extremely unlikely that the proposed maritime usage would pose a significant risk.

For intertidal environmental and archaeological surveys, there is no recognised pathway for noise disturbance underwater, therefore, no specific mitigation for underwater noise in relation to these activities is required.

Birds

The River Shannon and River Fergus Estuaries SPA was screened in for AA. Birds that feed using diving behaviour are present in the River Shannon and River Fergus Estuaries SPA, specifically seabirds such as Cormorant and diving ducks such as Scaup. Diving birds can be sensitive to disturbance from underwater noise and fatalities can occur at close distance. Disturbance could have a significant impact if the underwater noise was at an intensity, frequency and duration that affected bird populations at this SPA.

Flushing disturbance can be expected to displace these diving birds from close proximity to the survey vessels and underwater 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 noise. There is a low likelihood of interaction between the sound source and diving birds due to the relatively short exposure time when they dive. Given the temporary nature of the proposed activities, the mobile nature of the birds and their displacement due to flushing, underwater noise would be very unlikely to have a significant effect on diving bird populations from The River Shannon and River Fergus Estuaries SPA listed on Table 3. Therefore, no mitigation is required in relation to diving birds and underwater noise from boat-based surveys.

4.1.3 Disturbance and displacement from above water noise

A number of boat-based survey types are planned as part of the proposed maritime usage. These have the potential to disturb a number of QI species of European sites.

Birds

The planned activities could cause temporary disturbance to birds foraging in the intertidal and coastal areas, and to nesting bird species. A number of bird species listed as SCIs could potentially be temporarily disturbed and displaced by the proposed works as they are all either breeding or feeding in the area at various times of year.

The proposed MUL area directly overlaps with the River Shannon and River Fergus Estuaries SPA, which form the largest estuarine complex in Ireland. The SPA is also of special conservation interest for holding an assemblage of over 20,000 wintering waterbirds. In addition, there are 17 species that have wintering populations of national importance. Several of these waterbirds and wader species could be disturbed and displaced if the activities occurred in the winter months. The site also supports a nationally important breeding population of Cormorant.

No other important breeding colonies have been identified within the River Shannon and River Fergus Estuaries SPA, but it is intended to include a condition in any licence granted to have an ecologist present on site at all times during the planned works in all intertidal sites in order to minimise any potential disturbance and ensure site integrity is maintained. Mitigations will be outlined in Section 4.6 below.

Archaeology surveys, geophysical surveys and ecological surveys will occur within the proposed MUL area. These surveys are considerably less intrusive than the geotechnical activities planned. However, there is the potential for disturbance to SCI species from the River Shannon and River Fergus Estuaries SPA, particularly Cormorant during the breeding season, due to the presence of survey staff and equipment. While there exists the potential for disturbance effects on breeding cormorants rising from the proposed survey work, any such effects are considered unlikely to be significant. The nearest known breeding colony is located at Bunlicky lake, an inland, tree-nesting site situated a considerable (~28km) distance from the proposed MUL area, with no direct spatial overlap between breeding habitat and the survey area. Recent long-term monitoring demonstrates that Bunlicky Lake functions as a stable and increasing breeding site (93 active nests in 2-12; 250 active nests in May 2024; Berrow et al. 2025) which indicates low sensitivity to intermittent marine-based activities. As such, it is not proposed to include a condition of any license relating to breeding Cormorant.

Marine mammals - otter

Above water noise and visual disturbance and displacement was screened in for potential impacts on otter from the Lower River Shannon SAC. The noise from the planned survey activities, could potentially disturb otter. Several intertidal grab samples, including GS29-GS37, and GS38-GS39, and GS41-GS45, as well as GS07, overlap with otter's marine aquatic habitat. The noise and presence of personnel could temporarily disturb otter commuting and foraging within the MUL area. However, given the busy nature of the site, it is considered that any otters in the vicinity would likely be habituated to the levels of disturbance that prevail in the area.

Collision Risk

Vessel use as associated with the proposed maritime usage has the potential to give rise to a risk of collision with marine mammals, including bottlenose dolphin. However, the risk is considered to be very limited. During survey operations, vessels will operate at low speeds, with geotechnical activities largely stationary for extended periods and geophysical surveys undertaken at slow survey speeds. Empirical studies have demonstrated that the risk of lethal vessel strike to cetaceans decreases significantly where vessel speeds do not exceed approximately ~10 knots (Laist et al. 2001). Typical site investigation survey speeds will fall well below this threshold. Given the slow moving or stationary nature of the proposed activities the likelihood of collision with dolphins is considered low and not significant. Should a licence be granted a condition will be required whereby a qualified and experienced marine mammal observer (MMO) shall be appointed to monitor for marine mammals and to log all relevant events using standardised data forms

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 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 considered. This in-combination assessment has been undertaken using professional and scientific judgement.

4.2.1 Defining the Cumulative Effects Spatial Scope (CESS)

Impacts of underwater noise associated with the proposed activities are considered to have the widest spatial reach, with Harbour porpoise being most sensitive to noise disturbance³.

³ [JNCC Guidance on Assessing the Significance of Noise Disturbance against Harbour Porpoise SACs Conservation Objectives](#)

The CESS was defined at appropriate assessment screening stage as 20 km, based on geophysical survey equipment recommended Effective Deterrence Ranges⁴.

4.2.2 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 activities are proposed. The applicant has applied for a 5-year licence duration and thus the Cumulative Effects Temporal Scope (CETS) is 5 years.

4.2.3 Impacts and Pathway Identification

Potential impacts	Potential Cumulative Pathway
Physical disturbance and habitat loss	A potential pathway exists via spatial and temporal overlap of intrusive survey activities, leading to cumulative physical disturbance, potential loss or alteration of Annex I habitats and indirect effects on habitat-dependent species (marine mammals, fish, otter, seabirds).
Increase in sedimentation	A potential pathway exists via increased suspended sediments and waterborne contaminants arising from overlapping survey activities, which could cumulatively disturb Annex I habitats and affect migratory fish and the prey resources of birds and marine mammals.
Disturbance from underwater noise	A potential pathway exists via underwater sound propagation, with cumulative effects possible where noise travels through water within the CESS (up to 20km) and overlaps with other underwater noise generating activities.
Visual & above water noise, vibration, human presence disturbance	A potential pathway exists via visual disturbance, airborne noise and vibration, and increased human presence, with cumulative effects possible within the CESS where there is a spatial and temporal overlap with other above-water producing activities.
Collision risk	A potential pathway exists via increased vessel presence, with cumulative collision risk possible where there is spatial and temporal overlap with other marine activities, potential affecting the resident bottlenose dolphin population within the Shannon Estuary.

⁴ Effective Deterrence Range – the radius of a circular area assumed to be disturbed.

4.2.4 Prediction:

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

Physical disturbance and habitat loss

There is the potential for increased disturbance to habitats as well as the potential for increased habitat loss and habitat degradation if other relevant projects were to take place in the vicinity of the proposed activities at the same time.

Increase in sedimentation

There is the potential for increased suspended solids effects if geotechnical activities with other projects were to take place at the same time.

Disturbance from underwater noise and vibration

There is the potential for increased underwater noise and vibration disturbance effects if other relevant projects, capable of producing similar disturbances, were to take place at the same time.

Visual & above water noise, human presence disturbance

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

Collision risk

There is the potential for an increased risk of vessel collision with marine mammals, particularly the resident Bottlenose Dolphin population, if other relevant projects involving increased vessel movements or marine traffic were to take place at the same time.

4.2.5 Identification of Plans or Projects that could act in combination:

A search was carried out on 03/02/2026 of relevant databases (including EPA, Foreshore, MARA, planning authorities etc.) for other plans and projects with characteristics that may cause in-combination effects with the proposed site investigation activities, on the QIs of the European sites identified on Table 3. The projects within the CESS and CETS have been considered for their potential to cause cumulative effects, in combination with the proposed activities being considered in this MUL application, on the QIs of those sites listed on Table 3.

Table 4: Those projects to which particular attention is given due to the nature and location of the activities in the context of this in-combination assessment.

Application reference no.	Project	Approximate Distance from MUL Area	Project Status	Cumulative Effects
Planning Permission application 18301561	Capacity Extension at Foynes Port	Overlaps	Approved but not completed. - Permission granted 12/12/2018	Possible temporal overlap in terms of disturbance and displacement
Planning Permission application 2360011	Shannon Foynes Port Development	Overlaps	Proposed permission submitted January 2023	Possible temporal overlap in terms of disturbance and displacement
Planning Permission application 22742	Shannon Foynes Port Development	Overlaps	Proposed permission submitted July 2022	Possible temporal overlap in terms of disturbance and displacement
Foreshore Licence application FS006975	Shannon Foynes Port Company maintenance dredging	Overlaps	Approved but not completed. - Permission granted 03/03/2023	Possible temporal overlap in terms of disturbance and displacement
MUL - LIC230014	Shannon Foynes Port Company	Overlaps	Granted October 2024	Possible temporal overlap in terms of disturbance and displacement
MUL - LIC230008	ESB Moneypoint – site investigations	15 km	Granted August 2024	Possible temporal overlap in terms of disturbance and displacement
MUL - MUL240034	Gas Networks Ireland Shannon Estuary – Site investigations	Overlap	Granted June 2025	Possible temporal overlap in terms of disturbance and displacement
MUL - MUL250020	Kilrush Maritime Ltd	27 km	Applied 07/11/2025	Possible temporal overlap in terms of disturbance and displacement

Dumping at Sea S0009-03	Shannon Foynes Port Company Dumping at Sea Permit	1 km	Approved but not completed. - Permission granted 21/12/2020	Possible temporal overlap in terms of disturbance and displacement
MUL LIC230004	Aughinish Maintenance Dredging	3.5 km	Granted April 2025	Possible temporal overlap in terms of disturbance and displacement
PA91.312146 and 318302	Aughinish Alumina Bauxite Extension	3.5 km	Approved. - Permission granted 31/08/22	Possible temporal overlap in terms of disturbance and displacement
MAC application MAC1023003 2	NetZero Energy Project 4 Limited	2 km	Proposed MAC submitted	Possible temporal overlap in terms of disturbance and displacement
MAC application MAC2024001 0	Uisce Eireann - WWTP	1 km	MAC applied for and under assessment	Possible temporal overlap in terms of disturbance and displacement

In addition, the in-combination assessment considers the potential cumulative impacts from minor development projects in the geographical area surrounding the proposed MUL application area.

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

- The Climate Action Plan 2025,
- National Marine Planning Framework,
- The National Development Plan 2021–2030,
- The Water Action Plan 2024
- The Clare County Development Plan 2023-2029
- The Kerry County Development Plan (2022-2028)
- Tipperary County Development Plan 2022- 2028
- The Limerick Development Plan 2022-2028
- The Shannon Town and Environs Local Area Plan 2024-2030
- The Shannon Foynes port Company Vision 2041

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 identified European sites.

4.2.6 In-Combination Effects Assessment conclusion

It is not possible to exclude the possibility of likely significant in-combination effects on the conservation objectives of the European sites considered in this assessment as a result of this proposed maritime usage activity and the projects identified in Table 4. Therefore, it is recommended that suitable mitigation measures be included in any Maritime Usage Licence granted in relation to this proposed maritime activity for the possibility of likely significant in-combination effects.

4.3 Residual Effects

This assessment has identified Likely/Possible Significant Impacts on European Sites and their conservation interests in Section 4.1 and recommends mitigation measures for each at Section 4.6 below. It is considered that the mitigation measures described and their implementation through licence conditions will remove, or reduce to imperceptible levels, all negative impacts and that residual effects will not arise.

4.4 Assessment of Transboundary effects

The mitigation measures proposed as part of this appropriate assessment will mitigate against any transboundary effects on other European sites.

4.5 Public consultation

A public consultation was undertaken between 12/11/2025 to 15/12/2025 with the public invited to make observations. In addition to the public consultation, observations were invited from relevant public bodies. Two submissions were received on foot of the public consultation, while nine submissions were received from relevant public bodies. These submissions have been considered as part of the appropriate assessment and are summarised in "Public consultation" Section of the associated Maritime Usage Licence Assessment Report produced as part of the MUL application assessment.

4.6 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.

4.6.1 Physical Disturbance to Habitats and Habitat loss

Intertidal

- (i) The Holder shall ensure that an ecologist will be on site during all intertidal surveys carried out as part of this Permitted Maritime Usage in order to minimise disturbance and ensure site integrity is maintained.
- (ii) Access to the intertidal area shall be exclusively through existing access routes.

- (iii) Disturbance of intertidal reef shall be avoided by machinery and personnel. The Permitted Maritime Usage shall not result in disturbance or damage to reef habitat and these areas shall be avoided by machinery and personnel.
- (iv) 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 ecologist. The site should be fully reinstated post works.
- (v) Silt protection measures shall be put in place if deemed necessary by the ecologist.

4.6.2 Sedimentation

Interactions with the seabed associated with geotechnical surveys, deployment of seabed equipment, and marine sediment sampling may lead to increased suspended sediment concentrations (SSC) with the potential to cause direct effects on sensitive marine habitats and indirect effects on species that rely on these habitats for feeding and for breeding, including marine mammals, otter, fish and birds. It is recommended conditions be included in any maritime usage licence in relation to this activity that may be granted as follows:

- (i) The Holder shall take all practicable efforts to ensure that any arisings from boring and drilling activities are collected and are stored and disposed of in accordance with the relevant National and European waste legislation and protocols as may be amended from time to time.

4.6.3 Disturbance from underwater noise and vibration (marine mammals)

The most up to date national underwater noise guidance must be adhered to for all geophysical and geotechnical activities, including the relevant monitored zones for the particular geophysical surveys being undertaken. Should there be a revised or updated national guidance published then that should be adhered to.

Marine Mammals

- (i) The Holder shall appoint a marine mammal observer(s) for the purposes of overseeing the Permitted Maritime Usage. The Holder shall ensure the marine mammal observer(s) shall satisfy the requirements of the most up to date national guidance. During the activity the Holder shall comply with the directions of the marine mammal observer(s).
- (ii) The Holder shall implement risk control and mitigation measures for marine mammals in strict accordance with the most up to date national guidance.
- (iii) The Holder shall, within 30 days of the completion of the Permitted Maritime Usage, forward a report of the marine mammal observer(s) operations and mitigation undertaken, to offshore@npws.gov.ie and compliance@mara.gov.ie
- (iv) The Holder shall publish the report and recording and data forms on their website within 60 days of completion of the Permitted Maritime Usage unless otherwise agreed with the Grantor

4.6.3 Disturbance due to underwater noise (birds)

No mitigation is required for birds relating to survey disturbance due to underwater noise and vibration in the proposed Maritime Usage Area.

4.6.4 Visual and above water noise disturbance (birds)

Mitigation is required to minimise the impact from above water noise on protected bird species in European sites. It is recommended conditions be included in any maritime usage licence in relation to this activity that may be granted as follows:

- (i) The Holder shall ensure that an ecologist will be on site during all intertidal surveys carried out as part of this Permitted Maritime Usage in order to minimise disturbance and ensure site integrity is maintained.
- (ii) Access to the intertidal area shall be exclusively through existing access routes.
- (iii) Disturbance of intertidal reef shall be avoided by machinery and personnel. The Permitted Maritime Usage shall not result in disturbance or damage reef habitat and these areas shall be avoided by machinery and personnel.
- (iv) 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 ecologist. The site should be fully reinstated post works.
- (v) Silt protection measures shall be put in place if deemed necessary by the ecologist.

4.6.4 Disturbance due to above water noise (otter)

No mitigation is required for otter relating to survey disturbance due to above water noise and disturbance in the proposed Maritime Usage Area.

4.6.5 Disturbance due to human presence

No mitigation is required due to human presence disturbance in the proposed Maritime Usage Area.

4.6.6 Collision risk

No mitigation is required relating to collision risk in the proposed Maritime Usage Area.

4.6.7 In-combination mitigation

Mitigation is required to minimise the impacts of possible in-combination effects as a result of similar activities in the area occurring at the same time. It is recommended that a condition be included in any maritime usage licence in relation to this activity that may be granted as follows:

In-combination effects

- (i) Prior to the commencement of the Permitted Maritime Usage, the Holder shall coordinate with other authorisation holders carrying out geophysical, seismic and geotechnical activities within a 20 km radius of the site boundary.
- (ii) Where a vessel-to-vessel distance of greater than 20 km cannot be maintained with respect to geophysical, seismic and geotechnical activities, the Holder shall coordinate with other authorisation holders to prevent temporal overlap of the activities. Where the Holder can submit evidence that there is a vessel-to-vessel distance of greater than 20 km, no temporal co-ordination of activities is required.
- (iii) Where the Holder becomes aware of temporal overlap that cannot be resolved within the prescribed distance, the Holder shall notify the Grantor who shall determine the timing of activities.
- (iv) Records of all engagements held, and agreements reached, if any, shall be maintained by the Holder and made available to the Grantor if requested.

5 Appropriate Assessment Conclusion

The appropriate assessment screening process identified likely/possible significant impacts due to Physical disturbance and habitat loss, Increase in sedimentation, disturbance from underwater noise, visual & above water noise, vibration, human presence disturbance and Collision risk.

The applicant provided an 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.

My assessment found that likely significant impacts from the proposed activities could not be ruled out, beyond reasonable scientific doubt, without mitigation. Additionally, I found that the potential for in-combination effects from the proposed activities with other plans and projects 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 4.6 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>	 Dr Micheál Mac Monagail Marine Analyst 04/02/2026
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6 Appropriate Assessment Determination

Having considered this report, the documents submitted by Gas Networks Ireland, Gasworks Road, Cork, Ireland, 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 to undertake ‘Marine environmental surveys for the purposes of site investigation or in support of an application under Part XXI of the Act of 2000’ in Support of the Strategic Gas Emergency Reserve Project** (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 4.6 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.

Signature and Date of Decision Maker	 <hr/> John Evans Director of Maritime Usage Licensing and Planning Advisory 04/02/2026
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References

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Laist, D.W., Knowlton, A.R., Mead, J.G., Collet, A.S. & Podesta, M. (2001). Collisions between ships and whales. *Marine Mammal Science*, 17: 35-75. DOI: [10.1111/j.1748-7692.2001.tb00980.x](https://doi.org/10.1111/j.1748-7692.2001.tb00980.x)