

19/062 - WO064 Marine Modelling Studies - Lot 1 Greater Dublin & Northeast Region

Information for EIA Screening

Uisce Éireann

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Quality Information

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1. Information for EIA Screening

1.1 Introduction

This Attachment has been prepared in support of the Maritime Usage Licence (MUL) Application for marine surveys associated with the Marine Modelling Study (MMS) being undertaken by Uisce Éireann along the Irish coast, from Carlingford Lough to Kilcoole. The marine surveys comprise the deployment and recovery of Acoustic Doppler Current Profilers (ADCPs), bathymetric surveys, and passive water quality sampling (hereafter referred to as the Marine Surveys), within Proposed Licence Areas A–D. Further details of the marine surveys and Proposed Licence Areas A-D can be found in Part 3 of the MUL Application.

This attachment forms one of eleven attachments (the current attachment is highlighted in **bold**) submitted in support of included as part of the MUL Application:

- Attachment 3.1: Proposed Maritime Usage
- Attachment 3.4: MUL Map and GIS Shapefiles
- Attachment 3.5: Other Maps and Drawings
- Attachment 4.1: Compliance with Objectives of the National Marine Planning Framework (NMPF);
- Attachment 4.3.1: Supporting Information for Screening of Appropriate Assessment (SISAA);
- Attachment 4.4: Risk Assessment for Annex IV Species;
- Attachment 4.5: Compliance with Objectives of the Water Framework Directive;
- Attachment 4.6: Compliance with Marine Strategy Framework Directive;
- **Attachment 4.7: Information for EIA Screening; and,**
- Attachment 4.11: Compliance with National or European Strategic or Policy Objectives.

The purpose of this document is to provide a clear and proportionate assessment of compliance with the Environmental Impact Assessment (EIA) Directive¹ and its implementing Irish legislation. It also serves as an EIA Screening to determine whether the proposed Marine Surveys trigger the requirement for an EIA under the Planning and Development Regulations, S.I. No. 600 of 2001 (as amended). In particular, this document demonstrates that the proposed Marine Surveys are not likely to have a significant effect on the environment.

1.2 Quality Assurance and Statement of Authority

This report, and the assessment described within it, has been completed in accordance with the AECOM Integrated Management System (IMS). AECOM's IMS places emphasis on professionalism, technical excellence, quality, as well as covering health, safety, environment and sustainability management. All AECOM staff members are committed to maintaining this accreditation to those parts of BS EN ISO 9001:2015 and 14001:2015, as well as BS OHSAS 18001:2007 that are relevant to the provision of consultancy services.

1.3 EIA Directive Objective

The objective of the EIA Directive is to ensure that projects that are likely to have a significant effect on the environment are adequately assessed before they are approved. An EIA is mandatory for all projects listed in Annex I of the EIA Directive. For projects listed in Annex II an EIA is required only where the proposed project is determined, through a case-by-case examination or by application of thresholds or criteria, to be likely to have significant effects on the environment by virtue of its nature, size, or location.

1.4 Baseline Condition

The proposed Marine Surveys do not fall within either class defined under Annex I or Annex II of the EIA Directive. Therefore, it is not subject to the provisions of the EIA Directive.

¹ Directive 2011/92/EU of the European Parliament and of the Council of 13 December 2011 on the assessment of the effects of certain public and private projects on the environment, as amended by Directive 2014/52/EU

Notwithstanding the fact that the Marine Surveys are not subject to mandatory EIA, this report has assessed the works relative to its potential to impact the receiving marine environment, based on technical guidance provided by MARA (2024). As such the following elements have been assessed and an analysis of the assessment is given in Section 1.5 of this report.

- Land & Soils
- Water
- Biodiversity
- Fisheries and Aquaculture
- Air Quality
- Noise & Vibration
- Landscape/Seascape
- Traffic & Transport (including navigation)
- Cultural Heritage (including underwater archaeology)
- Population & Human Health
- Major Accidents & Disasters
- Climate
- Waste
- Material Assets
- Interactions

1.5 Impact Assessment

Potential impact pathways from the Marine Surveys to the receiving environment have been assessed in this section. A baseline summary has also been provided for each element assessed. A summary of the impact pathways being considered are also shown in Table A-1.

1.5.1 Land and Soils

The Marine Surveys will be conducted exclusively within the maritime area. However, Lot 1 Proposed Licence Areas A-D are adjacent to the east coast of Ireland, encompassing counties Dublin, Wicklow, Meath, and Louth. The east coast features a mix of low-lying beaches, estuaries, and rocky shores, along with prominent headlands such as Howth Head in Dublin and Bray Head in Wicklow. Sandy beaches, including Portmarnock, Brittas Bay, and Laytown, are common along this stretch of coastline.

The geology of the east coast is characterized by sedimentary formations such as shale, sandstone, and limestone, with glacial deposits like boulder clay and gravel dominating much of the low-lying areas. In Wicklow, the Wicklow Mountains, composed primarily of granite intrusions, extend close to the coastline, creating a striking contrast with the lowlands. The area also includes glacially derived features such as drumlins, particularly evident in north County Dublin and County Meath, and deposits of glacial till along much of the coast. The coastal landscapes are further shaped by estuaries, such as those of the River Liffey and the River Boyne, which contribute to sediment deposition and dynamic coastal processes.

As the Marine Surveys are confined to the maritime area, no impacts to land and soils are anticipated, and these aspects are therefore not considered further in this assessment.

1.5.2 Water

The Lot 1 Proposed Licence Areas A-D fall within several coastal Water Framework Directive (WFD) waterbodies (Environmental Protection Agency, 2025a):

- Dublin Bay;
- Irish Sea Dublin;
- Southwestern Irish Sea – Killiney Bay;

- Northwestern Irish Sea;
- Malahide Bay;
- Boyne Estuary Plume Zone;
- Louth Coast;
- Outer Dundalk Bay;
- Mourne Coast; and
- Carlingford Lough.

These waterbodies were all classed as having either a 'high' or 'good' status in the latest monitoring period of 2016 – 2021, except for Boyne Estuary Plume Zone and Malahide Bay, which are of 'moderate' status (Environmental Protection Agency, 2025a; 2025b). Mourne Coast and Carlingford Lough waterbodies have an 'unassigned' status. A status of 'high' indicates that the water is unpolluted and supports the normal functioning of ecological processes, with a 'good' status indicating only a slight change from the reference condition. A 'moderate' status indicates a moderate change in community structure and loss of some niche species, with reduced resilience and ability to absorb external 'shocks'.

The Marine Surveys within the Lot 1 Proposed Licence Areas A-D are not expected to result in a deterioration of the waterbodies. Several protocols will be implemented to reduce the risk of accidental spills and pollution events of fuel and oils from the survey vessel. It is envisioned that no more than two small vessels will be required for the Marine Surveys, in an area with several ports and a large commercial fishing industry. Therefore, the addition of one extra vessel during the Marine Surveys is not expected to increase the risk of pollution events from accidental spills above baseline conditions. Furthermore, with mitigation measures in place, such as compliance with the International Convention for the Prevention of Marine Pollution from Ships (MARPOL), spills are considered highly unlikely to occur, with any spills that do occur expected to be small-scale and rapidly diluted and dispersed by surround water currents. Therefore, no adverse effects are expected, and this has not been considered further.

1.5.3 Biodiversity

1.5.3.1 Designated Sites

A total of 29 relevant European sites are located within the Lot 1 Proposed Licence Areas A-D (Table 1) (12 SACs and 17 SPAs) (Figure 1). Further information on the SACs and SPAs has been provided in the Dublin Bay Lot 1 SISAA which concluded no likely significant effects to any European site either alone or in-combination with any other plans/projects as a result of the Marine Surveys.

Also present in the Study Area are proposed Natural Heritage Areas (pNHAs). NHAs are primarily in place for the protection of terrestrial habitats, but do also offer some protection for marine features, particularly birds. Publicly available information regarding the protected features of all marine pNHAs in the Study Area is lacking, however most of the pNHAs overlap with European site designations and therefore protected features (shown in Table 1) are expected to be aligned.

Table 1. Designated Sites in the Lot 1 Proposed Licence Areas A-D

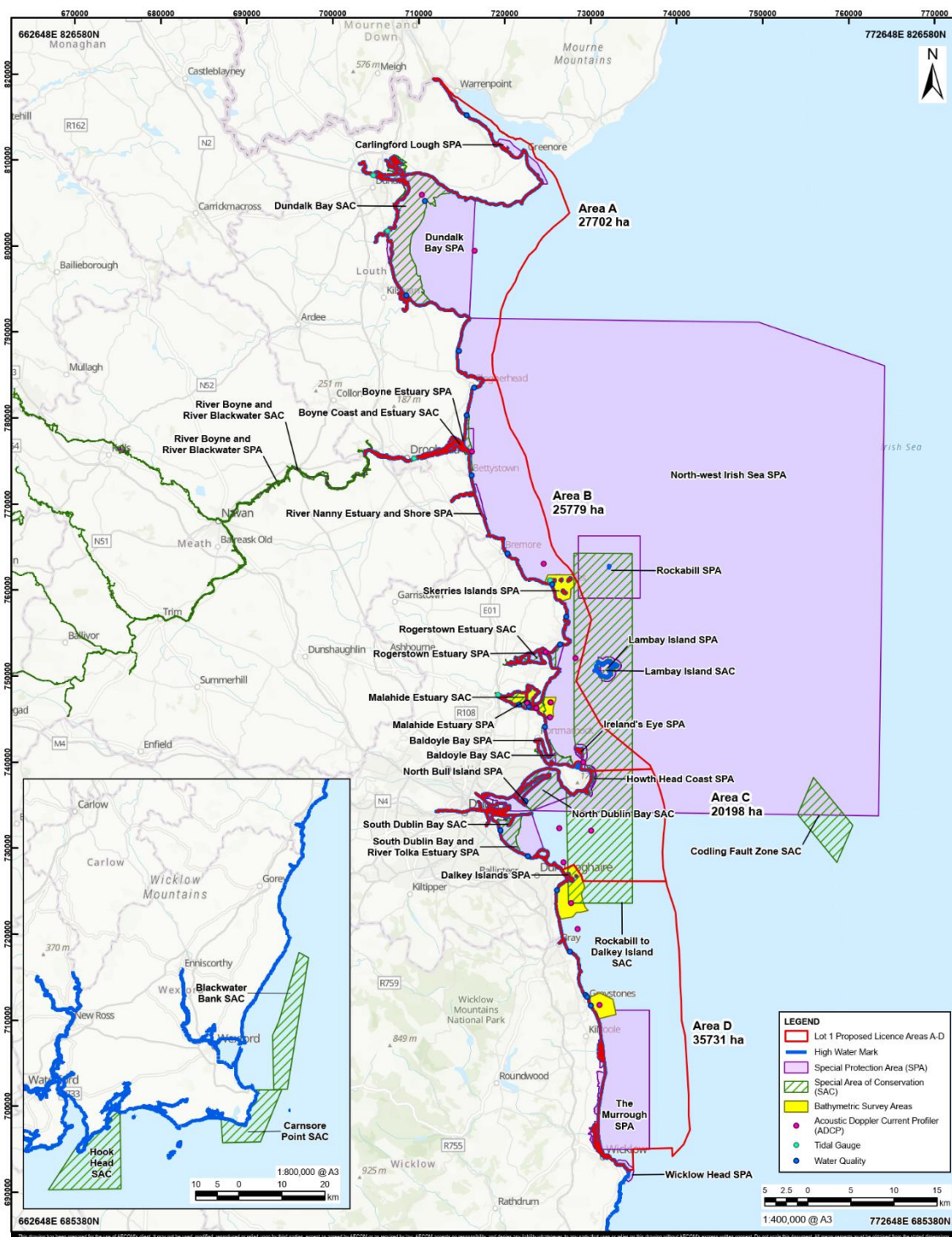
Site	Protected Marine Features
Designated Sites	
North Dublin Bay SAC	Mudflats and sandflats not covered by seawater at low tide
South Dublin Bay SAC	Salicornia and other annuals colonising mud and sand
Rockabill to Dalkey Island SAC	Reefs Harbour porpoise (<i>Phocoena phocoena</i>)
Baldoyle Bay SAC	Mudflats and sandflats not covered by seawater at low tide
Malahide Estuary SAC	Estuaries
Rogerstown Estuary SAC	Mudflats and sandflats not covered by seawater at low tide
Boyne Coast and Estuary SAC	Estuaries

Site	Protected Marine Features
	Mudflats and sandflats not covered by seawater at low tide
Cougher Head SAC	Vegetated sea cliffs of the Atlantic and Baltic coasts
Dundalk Bay SAC	Estuaries Mudflats and sandflats not covered by seawater at low tide
Bray Head SAC	Vegetated sea cliffs of the Atlantic and Baltic coasts
Wicklow Reef SAC	Reefs
South Dublin Bay and River Tolka Estuary SPA	Various waterbirds and seabirds
North Bull Island SPA	
North-West Irish Sea SPA	
Howth Head Coast SPA	
Baldoyle Bay SPA	
Ireland's Eye SPA	
Rogerstown Estuary SPA	
Rockabill SPA	
Skerries Islands SPA	
River Nanny Estuary and Shore SPA	
Boyne Estuary SPA	
Dundalk Bay SPA	
Carlingford Lough SPA	
Dalkey Island SPA	
The Murrough SPA	
Wicklow Head SPA	
Proposed Natural Heritage Areas	
North Dublin Bay pNHA	Mudflats and sandflats not covered by seawater at low tide
South Dublin Bay pNHA	Salicornia and other annuals colonising mud and sand Various waterbirds and seabirds
Howth Head pNHA	Vegetated sea cliffs of the Atlantic and Baltic coasts Various waterbirds and seabirds
Baldoyle Bay pNHA	Mudflats and sandflats not covered by seawater at low tide Various waterbirds and seabirds
Malahide Estuary pNHA	Mudflats and sandflats not covered by seawater at low tide
Portraine Shore pNHA	Estuaries Mudflats and sandflats not covered by seawater at low tide
Rogerstown Estuary pNHA	Estuaries Mudflats and sandflats not covered by seawater at low tide Various waterbirds and seabirds
Rockabill Island pNHA	Reefs Various waterbirds and seabirds
Laytown Dunes / Nanny Estuary pNHA	Various waterbirds and seabirds
Boyne Coast and Estuary pNHA	Estuaries Mudflats and sandflats not covered by seawater at low tide

Site	Protected Marine Features
Dundalk Bay pNHA	Estuaries Mudflats and sandflats not covered by seawater at low tide Various waterbirds and seabirds
Carlingford Lough pNHA	Various waterbirds and seabirds
Dalkey Coastal Zone and Killiney Hill	Reefs
Wicklow Head pNHA	Reefs

A full assessment of the effects of the Marine Surveys on designated sites has been conducted in the SISAA Report (Attachment 4.3), which has concluded no likely significant effects to any European sites either alone or in combination with any other plans / projects.

However, there is the potential for temporary physical disturbance to marine features of pNHAs resulting from the Marine Surveys. Nevertheless, due to the short-term (maximum 60 days), temporary nature of the surveys and the small footprint of each ADCP (less than 1 m²), any disturbance is considered to be negligible and therefore no significant impacts are likely.



CLIENT	DRAWING NUMBER	MARA FILE REFERENCE	PREPARED BY
Uisce Éireann Irish Water	Figure 1	MUL260049	Jordan Barr GIS Specialist
TITLE	REVISION	DATA SOURCES	AECOM Ltd.
Proposed Licence Area Map	P02	High Water Mark (HWM) as defined by the CBS was sourced as recommended in the MARA Technical Guidance V7. Tailte Éireann Surveying Open Data Portal https://data-osi.opendata.ie/arcgis.com	10th Floor, The Clarence West Building 2 Clarence Street West Belfast, BT2 7GP, UK
Lot 1 Licence Area and Relevant European Sites	DATE	© Copyright Government of Ireland. Licensed for re-use under the Creative Commons Attribution 4.0 International Licence.	Tel (028) 9060 7200 www.aecom.com
	PROJECTION	© Tailte Éireann. Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community	
	Irish Transverse Mercator (ITM)		

Figure 1. Lot 1 – Proposed Licence Areas A-D and Relevant European Sites

1.5.3.2 Benthic Habitats and Species

Several benthic habitat types, consisting of a mixture of mud, sand, coarser sediments and rock, exist in the Lot 1 Proposed Licence Areas A-D (Figure 2). The broadscale habitats present in Dublin Bay (Department of Housing, Local Government and Heritage, 2023, Geological Survey Ireland, 2026) and the typically associated species can be found in Table 2.

Table 2. Broadscale Habitat Types Present in the Study Area and Associated Species (Department of Housing, Local Government and Heritage, 2023)

Broadscale Habitats	Location of habitats within the Lot 1 Proposed Licence Areas A-D	Commonly Associated Species
Infralittoral mud	Area A, Area C	Dominated by polychaetes, oligochaetes and echinoderms, particularly including brittlestars <i>Amphiura</i> spp. (EEA, 2019a).
Infralittoral sand	Area A, Area B, Area C, Area D	Dominated by polychaetes e.g., shovelhead worm <i>Magelona mirabilis</i> , bivalves e.g., bean-like tellin <i>Fabulina fibula</i> , urchins e.g., sea potato <i>Echinocardium cordatum</i> and some amphipods (EEA, 2019b).
Infralittoral mixed sediment	Area D	Support infaunal and epifaunal species including polychaetes, bivalves, echinoderms, anemones, hydroids and bryozoa (EEA, 2019c).
Circalittoral mud	Area A, Area B, Area C	Seapens such as <i>Virgularia mirabilis</i> and <i>Pennatula phosphera</i> , anemone species including <i>Cerianthus lloydii</i> , starfish such as <i>Amphiura</i> spp., burrowing megafauna such as <i>Nephrops norvegicus</i> (European Environment Agency (EEA), 2019d).
Infralittoral coarse sediment	Area A, Area B, Area D	Characterised by infaunal polychaetes (e.g., <i>Chaetozone setosa</i> and <i>Lanice conchilega</i>), crustaceans such as <i>Iphinoe trispinosa</i> and <i>Diastylis bradyi</i> and several bivalve species. Habitats including the lancelet <i>Branchiostoma lanceolatum</i> can also occur (EEA, 2019e).
Circalittoral coarse sediment	Area A, Area B, Area C, Area D	Characterised by polychaetes, crustaceans and bivalves. Some sea cucumber species, such as <i>Neopentadactyla</i> , could also be present and also the lancelet (EEA, 2019f).
Infralittoral rock and biogenic reef	Area A, Area B, Area C, Area D	Characterisation is dependent on level of wave exposure, but commonly characterised by the kelps <i>Laminaria hyperborea</i> in exposed habitats and <i>Laminaria saccharina</i> in less exposed conditions. In the lower shore, dabberlocks <i>Alaria esculenta</i> or the kelps <i>Laminaria digitata</i> or <i>Laminaria saccharina</i> can also be present, depending on exposure (EEA, 2019g).
Circalittoral sand	Area A, Area B, Area C, Area D	Characterised by a wide range of echinoderms, polychaetes and bivalves, also sometimes including the sea urchin <i>Echinocyamus pusillus</i> . This habitat can support a diverse community (EEA, 2019h).
Circalittoral rock and biogenic reef	Area B, Area C, Area D	Can be dominated by red algae, the character of fauna varies widely depending on wave action, salinity etc (EEA, 2019i).
Circalittoral mixed sediment	Area D	Characterised by polychaetes, bivalves, echinoderms, burrowing anemones, species including hydroids can become established on hard substrata (EEA, 2019j).
Offshore circalittoral sand	Area B, Area C, Area D	Characterised by fine sands and or non-cohesive muddy sand. Little data available but thought to be dominated by diverse polychaetes, amphipods, bivalves and echinoderms (EEA, 2019k).
Offshore circalittoral rock and biogenic reef	Area B, Area C	Characterised by rocky areas and habitats formed by organisms such as cold-water corals and bivalves, not affected by wave action (EEA, 2019l).
Offshore circalittoral coarse sediment	Area C	Characterised by offshore coarse sands and/or gravels and shell. Typically diverse and dominated by infaunal polychaetes and bivalves (EEA, 2019m).

Several sandbanks are also present within the Lot 1 Proposed Licence Areas A-D. These are:

- Area B – Frazer (Lambay) Bank, Hoskyn Bank, Aird Patch and Bennet Bank;
- Area C – Bennet Bank, Rosbeg Bank, Burford Bank and Kish/Bray Bank; and
- Area D – Kish/Bray Bank, Frazer (Dalkey) Bank and India Bank.

These sandbanks do not appear to be designated as part of any European site present in the Study Area, but most are characterised as 'Sandbanks slightly covered by seawater at all times' (NPWS, 2025) which is an Annex I habitat.

Annex I estuaries are also present in the Lot 1 Proposed Licence Areas A-D (Department of Housing, Local Government and Heritage, 2023):

- Area A – Dundalk Bay (Outer) Estuary and Castletown Estuary;
- Area B – Boyne River Estuary, Nanny River Estuary, Rogerstown Estuary, Malahide Estuary and Baldoyle Estuary;
- Area C – North Bull Island, Tolka River Estuary (Clontarf) and Liffey River Estuary; and
- Area D – Broad Lough Estuary.

The deployment and operation of the ADCP instruments on the seabed in the Lot 1 Proposed Licence Areas A-D have the potential to result in temporary disturbance, loss or damage to benthic habitats and species in the direct vicinity of chosen locations.

A large proportion of the Lot 1 Proposed Licence Areas A-D consist of dynamic sediments such as mud and sand which are highly mobile due to ocean currents and wave action. Consequently, these sediments are expected to return to their normal baseline conditions once operations cease and the ADCP instruments are removed from the seabed. Additionally, these sediments and habitats host mobile species that can temporarily relocate from the affected area and return after the instruments are removed.

Given the small footprint of each individual ADCP instrument (less than 1 m²) relative to the overall habitat coverage, the reduction in available habitat for associated species in the Lot 1 Proposed Licence Areas A-D is expected to be negligible. The bathymetric surveys are not expected to have contact with the benthic environment and therefore no direct benthic disturbance is expected. Furthermore, the placement of ADCPs does not overlap with any geogenic and/or biogenic Annex I reef within the Lot 1 Proposed Licence Areas A-D (Table 2; Figure 2). Site investigations at the time of deployment will ensure ADCP are only placed on sandy flat substrate suitable for placement.

Several other Annex I habitats are present in the Lot 1 Proposed Licence Areas A-D. Annex I saltmarsh habitats and sea caves are not considered further in this assessment as they are located in the intertidal zone and the instruments will be required to remain fully submerged throughout the tidal cycle.

There is potential for the instruments to be placed in several Annex I estuaries in the Lot 1 Proposed Licence Areas A-D. However, the amount of estuarine habitat which could be disturbed, lost or damaged is considered to be negligible (1 m² per each individual ADCP instrument) compared to the overall area of estuaries. These habitats are highly mobile in nature and any instruments being placed within the habitats during the Marine Surveys are not considered to result in significant effects on them.

Therefore, the effect of temporary disturbance, direct loss of or damage to benthic habitats and species due to the deployment, operation and removal of ADCP instruments is considered to be minor with a negligible magnitude, and therefore not significant.

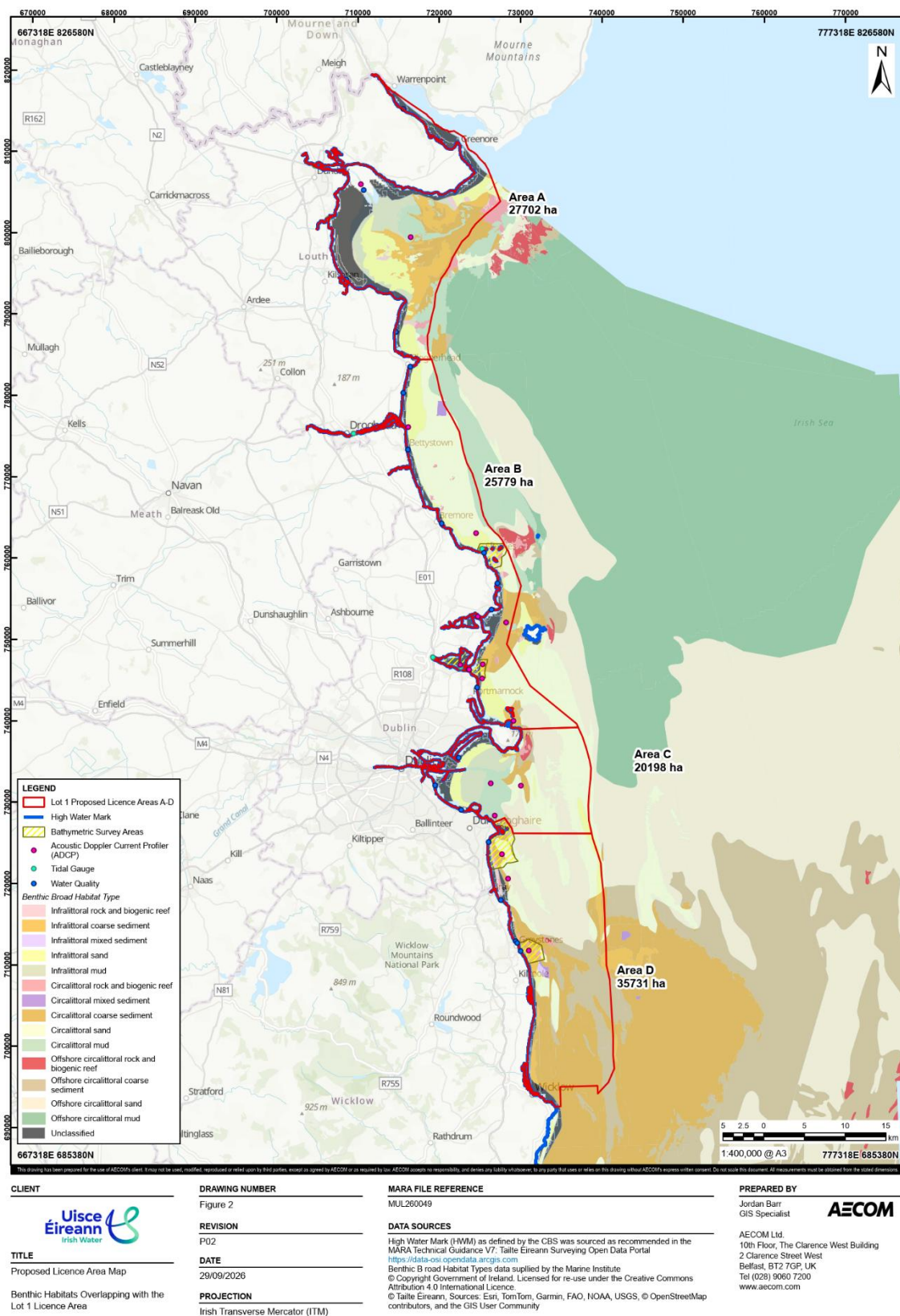


Figure 2. Proposed Licence Areas A-D and Broadscale Benthic Habitats

1.5.3.3 Marine Mammals

Cetacean species which are commonly found off the east coast of Ireland and therefore have the potential to occur in the vicinity of the Lot 1 Proposed Licence Areas A-D are:

- Harbour porpoise (*Phocoena phocoena*);
- Bottlenose dolphin (*Tursiops truncatus*);
- Common dolphin (*Delphinus delphis*); and
- Minke whale (*Balaenoptera acutorostrata*).

There are also two species of seal likely to be present in the Lot 1 Proposed Licence Areas A-D:

- Grey seal (*Halichoerus grypus*); and
- Harbour seal (*Phoca vitulina*).

Haul-out sites for both grey and harbour seal are present around Lambay Island SAC, which is located > 1 km to the east of the Lot 1 Proposed Licence Area B.

The cetacean species listed above are all included under Annex II and Annex IV of the Habitats Directive. Harbour seal and grey seal are included under Annex II only. All designated sites located within the species-specific Marine Mammal Management Units (MMMUs), published by the Inter Agency Marine Mammal Working Group (IAMMWG) (IAMMWG, 2022) have been considered in the wider assessment (see Figure 2 in Dublin Bay Lot 4 Annex IV Risk Assessment).

The operation of the ADCPs and the vessel used for ADCP deployment and recovery will both produce underwater sound. In addition, the use of SBES and/or MBES during the bathymetric surveys will also produce underwater sound. The effects of underwater sound on marine mammals have been considered further in Section 1.5.7.

The use of vessels may also contribute to increased collision risk and airborne noise which could affect marine mammals. Vessels could be operating within 250 m of haul-out sites, potentially resulting in disturbance. However, due to the regular use of Dublin Bay by marine traffic, the use of a two small vessels in the Proposed Licence Area for ADCP deployment and bathymetric surveys is not expected to result in a deviation from baseline conditions for collision risk and airborne sound and other general disturbance. Therefore, these have not been considered further.

Further information on marine mammals can be found in the SISAA Report (Attachment 4.3) and Annex IV Risk Assessment (Attachment 4.4). The Annex IV Risk assessment concluded that the Marine Surveys will not significantly affect the favourable conservation status of any Annex IV species as defined by the Habitats Directive and is therefore considered to be not significant.

1.5.3.4 Birds

There are several nationally and internationally important species of bird in Ireland which inhabit areas of coastal sea cliffs, estuaries and offshore islands, many of which are designated as SPAs.

The temporary use of one vessel during the Marine Surveys may result in the temporary displacement of birds when foraging at sea or loafing. The surveys may include the use of vessels within or close to SPAs in the Study Area.

There are several ports located in the Lot 1 Proposed Licence Areas A-D and commercial fishing activities and therefore birds are expected to have some habituation to the presence of vessels in the surrounding waters. Furthermore, the vessel will only be operational for a short period of time.

Therefore, any impacts to birds are expected to be negligible, and not significant.

Further information on marine ornithology can be found in the SISAA Report (Attachment 4.3), which concluded no significant impacts to SPAs as a result of the Marine Surveys.

1.5.4 Fish

1.5.4.1 Annex II Fish Species

There are only two Annex II migratory fish species which are qualifying features of the European sites within the Lot 1 Proposed Licence Areas A-D. These are Atlantic salmon (*Salmo salmar*) and river lamprey (*Lampetra fluviatilis*) of River Boyne and River Blackwater SAC. There are also, three salmonid rivers flow into Dublin Bay which are the River Dargle, the River Vartry and the River Boyne (Environmental Protection Agency, 2025a). These are designated as 'salmonid rivers' under the European Communities (Quality of Salmonid Waters) Regulations 1988 (superseded by the Water Framework Directive 2000/60/EC), which are considered capable of supporting migratory Atlantic salmon, trout (*Salmo trutta*), char (*Salvelinus* spp.) and common whitefish (*Coregonus lavaretus*) (Conserve Ireland, 2018).

The operation of the ADCPs, the use of SBES and/or MBES during the bathymetric surveys and the vessels themselves, will all produce underwater sound which could affect migratory fish species within the Lot 1 Proposed Licence Areas A-D. The effects of underwater sound on fish have been considered further in Section 1.5.7.

The temporary presence of one vessel during the Marine Surveys may result in the temporary displacement of migratory fish and shellfish, which could also affect aquaculture and the local commercial fishing industry (see Section 1.5.5). Shellfish will be located near the seafloor and therefore are not considered to be at risk of vessel activity on the surface of the water column. The placement and operation of the ADCP on the seabed will also create minimal sediment disturbance and is not considered to affect filter feeding in shellfish.

Additionally, any disturbance that does occur will be confined to the immediate vicinity of the deployment vessel, which means the overall impact on fish and shellfish species is expected to be minimal. Furthermore, there are several ports located in the Lot 1 Proposed Licence Areas A-D and commercial fishing activities (see Section 1.5.5), and therefore fish are expected to have some habituation to the presence of vessels in these areas.

Therefore, impact of disturbance to fish due to vessel presence and survey activity is considered to be negligible, and not significant.

1.5.4.2 Other Important Fish Species

Herring

Atlantic herring (*Clupea harengus*) is an important commercial species in Irish waters (O'Sullivan *et al.*, 2013). Herring is a demersal spawner and the eggs have a high association with the sea floor as they are laid onto gravel, coarse sediment, sand shells and small stones forming a dense mat (ICES, 2006; Ellis *et al.*, 2012).

According to data provided by Department of Housing, Local Government and Heritage (2023; Figure 3), spawning grounds for Atlantic herring are not considered to be present in Dublin Bay or the surrounding areas. However, the nearest herring spawning stock to Dublin Bay is the Mourne stock (Ellis *et al.*, 2012; Dickey-Collas *et al.*, 2001) which overlaps with Lot 1 Proposed Licence Area A. Previous spawning studies have identified a low larval production rate in the Mourne stock compared with other herring stocks in the Irish Sea, with the majority of larvae likely to have spawned in nearby waters and drifted into the Mourne area (Dickey-Collas *et al.*, 2001). When spawning does take place in the Mourne stock, it occurs between September and October (Ellis *et al.*, 2012). Therefore, this is considered to be representative of the spawning season for herring in the Lot 1 Proposed Licence Areas A-D.

A herring nursery ground is located to the north of Dublin Bay and extending up to Carlingford Lough. However, the ADCPs are expected to cover a very small amount of habitat compared to the total nursery area shown in Figure 3. Therefore, there are expected to be no adverse effects to herring nursery grounds, and this has been scoped out of further consideration.

Other

Other fish species likely to be present within the Lot 1 Proposed Licence Areas A-D include horse mackerel (*Trachurus trachurus*), whiting (*Merlangius merlangus*), cod (*Gadus morhua*), haddock (*Melanogrammus aeglefinus*) and mackerel (*Scomber scombrus*), which all have either spawning or nursery grounds (or both) located within the Study Area (Department of Housing, Local Government and Heritage, 2023). However, these species are all pelagic spawners and have little association with the seabed. Sandeel can also be found in the Lot 1 Proposed Licence Areas A-D, but no spawning or nursery grounds are present. The ADCPs are expected to cover a very small amount of habitat compared to the total spawning and nursery areas present for these species. Therefore, there are expected to be no adverse effects to grounds for these species, and this has been scoped out of further consideration.

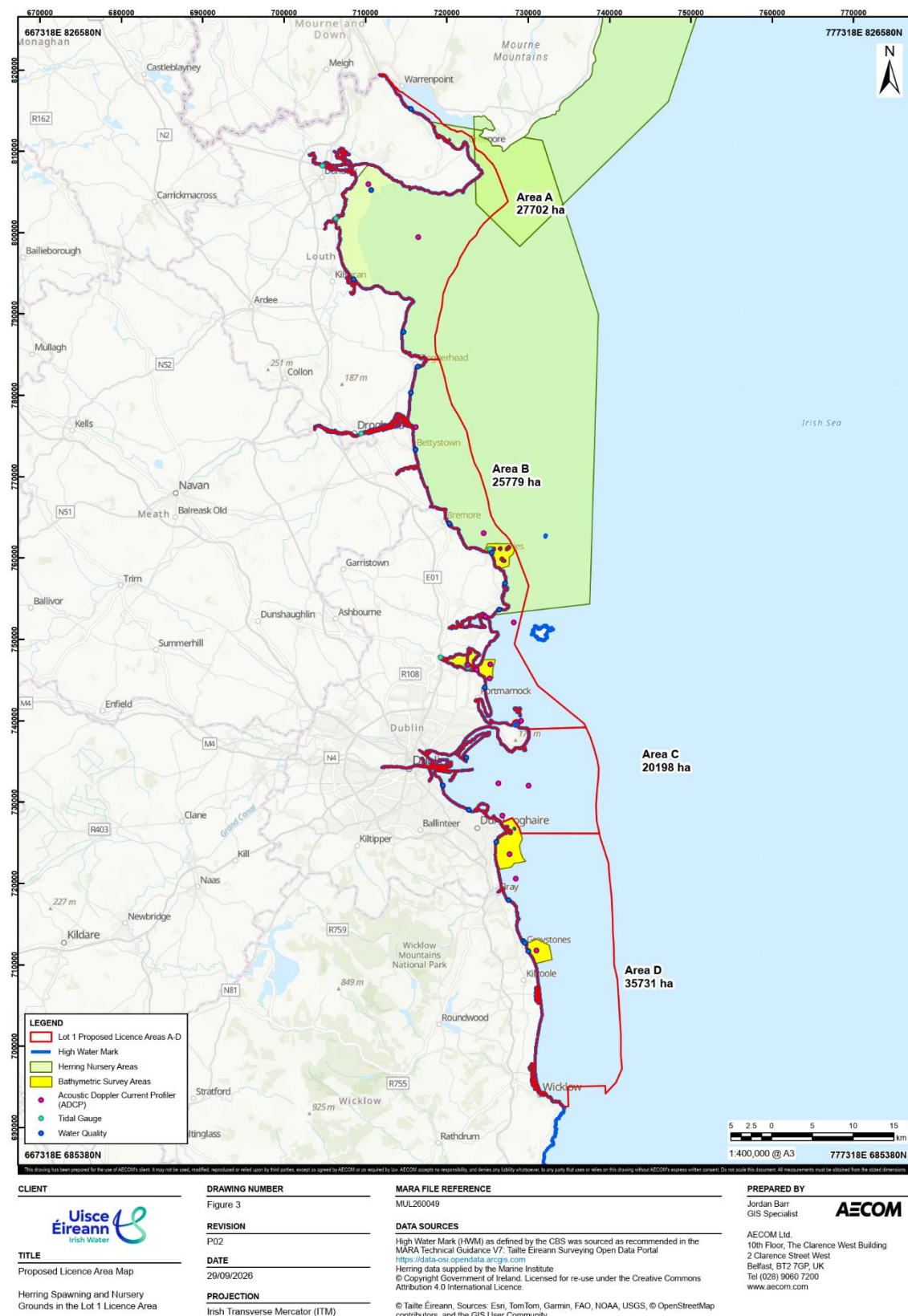


Figure 3. Lot 1 – Proposed Licence Areas and Herring Spawning and Nursery Grounds

1.5.5 Fisheries and Aquaculture

1.5.5.1 Aquaculture

Several Licenced Aquaculture Sites are present on the south coast of Carlingford Lough for shellfish, in Lot 1 Proposed Licence Area A (Figure 4). There are no Fishery Order Sites present for any species within the Lot 1 Proposed Licence Areas A-D.

Several Bivalve Production Areas are present along the coast in the Lot 1 Proposed Licence Areas A-D, starting north of Dublin Bay (Area B) and extending up to Carlingford Lough (Area A). These areas largely support the production of razor clams with some cockle production (Department of Housing, Local Government and Heritage, 2023). The Bivalve Production Areas also overlap with designated shellfish waters located on the coasts of Malahide, Balbriggan / Skerries, Dundalk Bay and Carlingford. During Marine Surveys the presence of structures such as oyster trestles and navigations poles will be looked out for during operations. These structures should be navigated around even at high tide.

Vessel presence and temporary survey activity in the Lot 1 Proposed Licence Areas A-D may result in minor disturbance to aquaculture. However, the addition of one additional vessel is not expected to result in a deviation from baseline conditions and therefore effects are expected to be negligible and not significant.

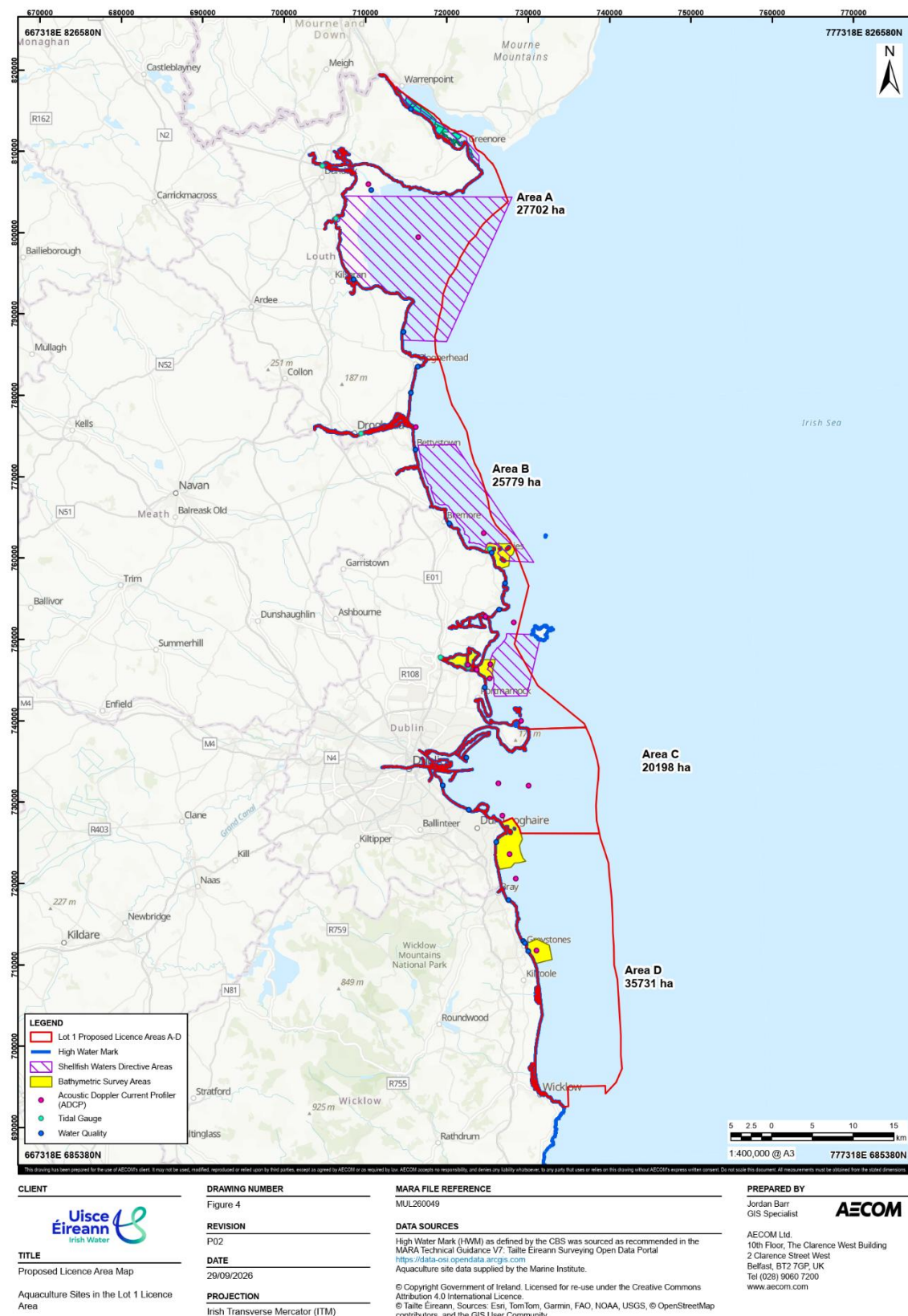


Figure 4. Lot 1 – Proposed Licence Areas and Aquaculture Sites

1.5.5.2 Commercial Fisheries

The following information is derived from the Ireland Marine Plan web portal (Department of Housing, Local Government and Heritage, 2023).

Several commercial fishing operations occur within the Lot 1 Proposed Licence Areas A-D including dredging, pot fishing and trammel netting. Fishing effort shows that all vessels used are >12 m. The most heavily fished locations (hectares per square kilometre per year) in the Lot 1 Proposed Licence Areas include coastline waters near Area A and B, and waters off the coast of Co. Wicklow.

A large proportion of Dublin Bay and surrounding areas within the Lot 1 Proposed Licence Areas A-D are used for pot fishing, with several techniques and gear types used. This includes creel and top entrance pots to target lobsters (e.g. *Nephrops norvegicus*) and/or crabs (e.g., velvet swimmer crab *Necora puber*), and common whelk (*Buccinum undatum*). Other types of pot fishing including shrimp pots are also commonly used in Areas A-D. Net fishing is also common in the Study Area, covering the whole coastline in Areas A and B.

Smaller net fishing areas are present in Area D. Net fishing in the Study Area consists of using trammel nets to target demersal species. In addition, commercial periwinkle (*Littorina littorea*) harvesting occurs in five locations along the coastline in Areas A and B, including at the Skerries and Carlingford Lough.

Various areas of dredging are present in the Study Area, with scallop *Pectinidae* spp. dredging occurring in deeper waters of Areas A and B all year round, and hydraulic dredging for razor clams *Ensis magnus* taking place on the coastline of Areas A and B from Dunany Point to Bailey Lighthouse, also throughout the year. Mussel dredging for seed mussels occurs in the Study Area, particularly off the coast of Wicklow in Area D with small areas present in Areas A and B. The Wicklow seed mussel beds are historical but are still used in present day (Department of Agriculture, Environment and Rural Affairs, 2025).

Different methods of trawling occur within the Study Area, particularly off the coast of Wicklow where beam trawling, otter trawling and pelagic trawling all occur (Department of Housing, Local Government and Heritage, 2023).

There are six commercial fishing ports located in the Lot 1 Proposed Licence Areas A-D. These are in Wicklow, Dun Laoghaire, Howth, Skerries, Balbriggan and Clogherhead, for which the predominant landings are demersal shellfish.

The Marine Surveys may result in minor disturbance to commercial fishing, from the presence of the survey vessel and the placement of ADCPs within fishing areas. There is the potential risk of damage to static fishing gear along with risk of entanglement with deployed survey equipment. However, the vessel will only be present for a short period of time and is not expected to result in a deviation from baseline conditions (i.e. there will only be one additional vessel present). Additionally, the ADCP placement will be temporary and has a small footprint of less than 1 m². A notice to mariners will also be published to ensure fishers are aware of the Marine Surveys. Therefore, the effect on commercial fishing is considered minor and not significant.

1.5.6 Air Quality

Environmental Protection Agency Air Quality Zones have been defined in Ireland, although these only cover terrestrial areas and do not include the marine environment. However, there will be no releases of emissions or airborne pollutants from the equipment during the deployment, operation or recovery of the ADCPs or during the bathymetric survey.

Small amounts of airborne pollutants may be released by vessels used during the Marine Surveys. However, it is likely that only one vessel will be used at any one time. Due to the fishing and aquaculture activity which occurs within and around Dublin Bay (see Section 1.5.5), and the presence of Dublin Port, the addition of one survey vessel is not expected to make a detectable change in air quality. Therefore, air quality has not been considered further as part of this assessment.

1.5.7 Noise and Vibration

The Marine Surveys are not expected to produce airborne sound above baseline conditions from vessel traffic.

Underwater sound and vibration will be generated by the marine survey instruments, including deployment, operation and recovery of ADCPs and MBES/SBES. Man-made sound sources, particularly where they are of high intensity or long duration, have the potential to result in permanent and temporary injury and auditory effects and can result in masking and behavioural disturbance in fish and marine mammals. However, the operating frequency

of the instruments is presumed to be 600 kHz to 1 MHz for ADCPs, 200 to 400 kHz for MBES and 200 kHz for SBES.

For most fish species, sensitivity to sound occurs from below 100 Hz to several hundred hertz, or several thousand hertz in a few species (Mann *et al.*, 1997; 2001). The hearing range of marine mammals is between 7 kHz to 160 kHz (NPWS, 2014) which is outside the operating frequency of the Marine Surveys (Table 3).

Therefore, there is no pathway to effect and noise and vibration are not considered further in this assessment.

Table 3. Hearing Frequency Range of Marine Mammals

Functional Hearing Group	Auditory Band Width	Species found in Ireland
Low frequency cetaceans	7 Hz to 35 kHz	• Humpback whale <i>Megaptera novaeangliae</i>; • Minke whale; • Blue whale <i>Balaenoptera musculus</i>; • Fin whale <i>Balaenoptera physalus</i>; and • Sei whale <i>Balaenoptera borealis</i>.
Mid-frequency cetaceans	150 Hz to 160 kHz	• Sperm whale <i>Physeter macrocephalus</i>; • Killer whale <i>Orcinus orca</i>; • Long-fine-pilot whale <i>Globicephala melas</i>; • Beaked whale species <i>Hyperoodontidae spp.</i>; and • Dolphin species (including bottlenose dolphin and common dolphin)
High frequency cetaceans	275 Hz to 160 kHz	• Harbour porpoise; and • Pygmy sperm whale <i>Kogia breviceps</i>.
Pinnipeds in water	50 Hz to 86 kHz	• Grey seal; and • Harbour seal.

Source: Southall *et al.* (2007); NMFS (2018); and Southall *et al.* (2019).

However, during the use of any single beam or multibeam echo sounding activities, a set of industry-standard mitigation measures, as outlined by DAHG (2014), are recommended to further minimise the risk of injury to marine mammals during Marine Surveys. Alongside these mitigation measures the Marine Surveys will use updated guidelines published by MARA (2025). These measures are applicable to all SBES, MBES, side scan sonar and sub-bottom profilers surveys within bays, inlets or estuaries and within 1,500 m of the entrance of enclosed bays/inlets/estuaries. These mitigation measures, described in further detail in Annex IV Risk Assessment (Attachment 4.4) and applicable to the bathymetric surveys are:

- A minimum of two qualified marine mammal observers will be required for visual coverage for shifts longer than 12 hours or in cases where 360 visibility is not possible for the vessel;
- Pre-start monitoring – monitoring conducted by a qualified and experience MMO(s) at least 30 minutes before sound-producing activity commences;
- Ramp-up procedure – the gradual increase in power output over a predetermined duration;
- Breaks in sound output – all pre-start monitoring and ramp-up procedures recommence prior to restarting where breaks in sound output occurs for a period of greater than 30 minutes; and
- Reporting – full reporting from MMOs on the operation and mitigation.

1.5.8 Landscape / Seascape

The Marine Surveys will consist of the placement of several ADCPs fully submerged and the use of underwater equipment. Additionally, it is likely that only one vessel will be required. Therefore, this is not expected to result in negative effects to the landscape or seascape. As a result, landscape and seascape have not been considered further as part of this assessment.

1.5.9 Traffic and Transport (including navigation)

Dublin Bay and the surrounding waters are already characterised by a high level of marine traffic due to the location of Dublin Port, resulting in the passage of cargo and tanker vessels, and passenger vessels including the use of multiple ferry ports (Department of Housing, Local Government and Heritage, 2023). Therefore, the addition of a single survey vessel is not expected to result in a deviation from baseline marine traffic conditions.

A few traffic separation schemes are present within the Lot 1 Proposed Licence Areas, including off Skerries (Area B) and on approach to Dublin (Area C) (MarineTraffic, 2024). However, the placement of fully submerged ADCPs in the Lot 1 Licence Areas and the short-term nature of the bathymetric surveys, are not expected to pose a significant risk to navigation. Therefore, traffic and transport (including navigation) have not been considered further as part of this assessment.

1.5.10 Cultural Heritage (including underwater archaeology)

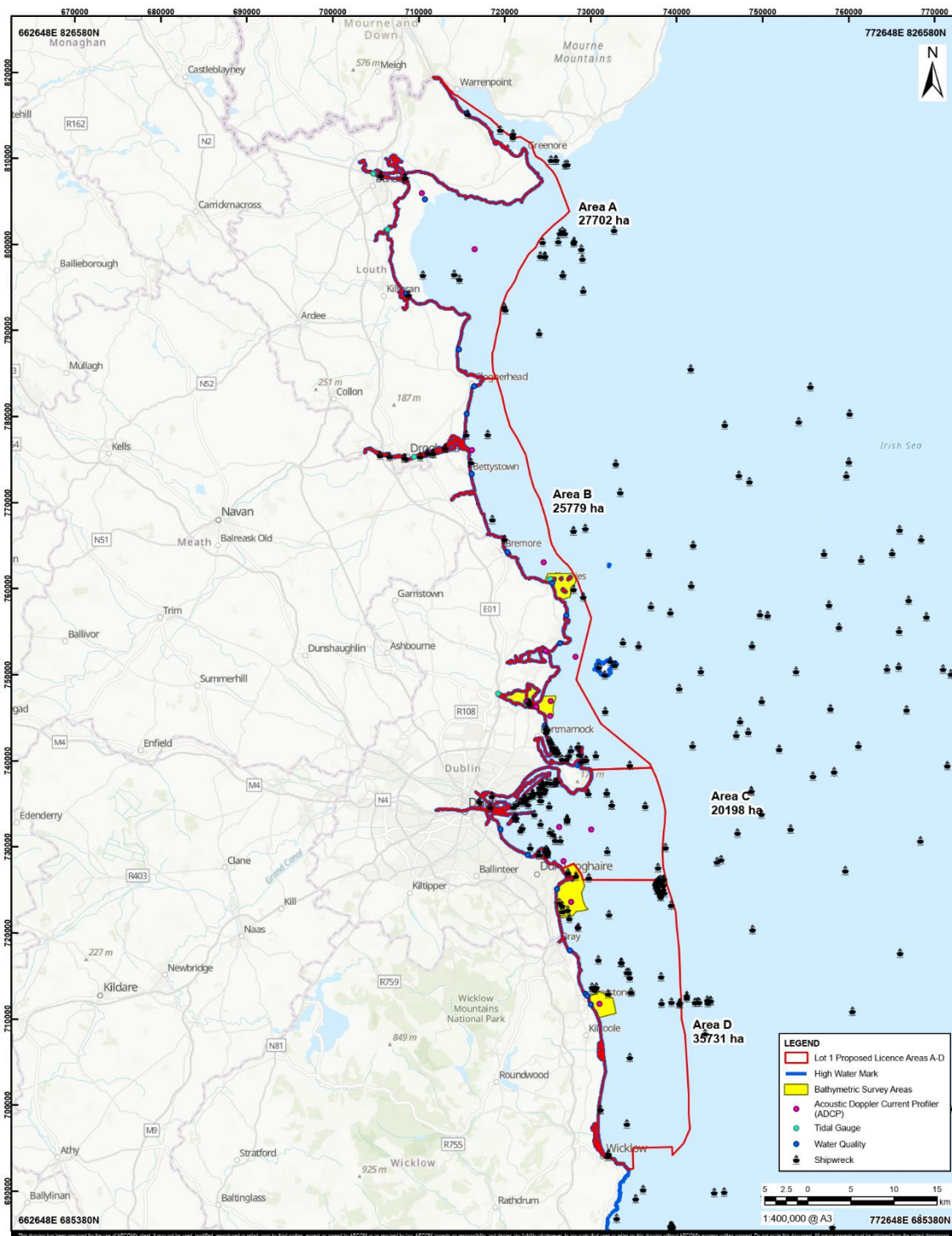
Dublin Bay is designated as a UNESCO Global Biosphere and a Coastal UNESCO World Heritage Site (Department of Housing, Local Government and Heritage, 2023).

There are at least 80 shipwrecks located in the Lot 1 Proposed Licence Areas throughout Areas A to D, with the highest number occurring close to the coastline in Dublin and Balbriggan (Department of Housing, Local Government and Heritage, 2023; Figure 5). A large proportion of the recorded shipwrecks have an unknown date of loss. The most recently recorded shipwreck occurred in 2005 and was the Explorer 1, lost north of Wicklow in Area D.

Several shipwrecks are likely to fall within the Lot 1 Proposed Licence Areas A-D. However, the bathymetric surveys are not expected to have any interaction with the seabed, and ADCPs will only be placed on suitable flat sediment and will therefore not be placed on any shipwrecks, thus avoiding damage to the wrecks and to facilitate the safe deployment and recovery of the equipment.

Furthermore, any pollution from vessels is likely to be small-scale and will likely be rapidly dispersed and diluted before reaching any shipwrecks. Therefore, the effects on cultural heritage from the proposed works are considered to be negligible and not significant.

Archaeological requirements including impact assessments and approval requirements will be outlined in the method statements provided by the surveyors prior to conducting the Marine Surveys.



CLIENT	DRAWING NUMBER	MARA FILE REFERENCE	PREPARED BY
Uisce Éireann Irish Water	Figure 5	MUL260049	Jordan Barr GIS Specialist
TITLE	REVISION	DATA SOURCES	AECOM
Proposed Licence Area Map	P02	High Water Mark (HWM) as defined by the CBS was sourced as recommended in the MARA Technical Guidance V7. Taitte Éireann Surveying Open Data Portal https://data-osi.opendata.ie/arcgis.com	AECOM Ltd, 10th Floor, The Clarence West Building 2 Clarence Street West Belfast, BT2 7GP, UK Tel (028) 9060 7200 www.aecom.com
Shipwrecks in the Lot 1 Licence Area	DATE 29/09/2026	Shipwreck data sourced from the National Monument Service's Wreck Inventory of Ireland Database (WIID). © Copyright Government of Ireland. Licensed for re-use under the Creative Commons Attribution 4.0 International Licence.	
	PROJECTION Irish Transverse Mercator (ITM)	© Taitte Éireann, Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community	

Figure 5. Shipwrecks in the Study Area

1.5.11 Population and Human Health

The Marine Surveys will be carried out entirely within the marine environment although several bathymetric survey areas border the coastline. However, none of these areas are expected to restrict public access to the beach or coastal waters and they are not located next to heavily populated areas. The most significant settlement in the Lot 1 Proposed Licence Areas A-D is the City of Dublin, located in Dublin Bay (Area C).

The survey activities, including the deployment of survey equipment, will not require access to public areas including beaches for deployment or operation, and vessels will comply with all major international shipping conventions required by the International Maritime Organisation. The Lot 1 Proposed Licence Areas A-D overlaps with bathing waters, but due to the short-term and temporary nature of the surveys, disturbance to the public using these bathing waters is expected to be minimal.

Therefore, the surveys are not expected to result in negative effects to the local population or human health and these have not been considered further in this assessment.

1.5.12 Major Accidents and Disasters

The Marine Surveys will be short term (maximum of 60 days for ADCP surveys and 28 days for bathymetric surveys) and temporary and will not influence any natural disasters including earthquakes, flooding or landslides.

Due to the use of only one vessel and short-term, temporary nature of the surveys, they are not expected to result in a major accident. As part of mitigation measures, the survey vessel will be required to comply with International Regulations for Preventing Collisions at Sea, and International Convention for the Prevention of Pollution from Ships (MARPOL Convention 73/78). The vessel will also be expected to comply with measures for the safety of shipping and navigation, including displaying navigation lights.

Therefore, the potential for major accidents and disasters has not been considered further in this assessment.

1.5.13 Climate

The ADCPs will be in place for a maximum of 60 days, with the bathymetric survey expected to last 28 days. Due to the short period of time in which these activities will occur, and the nature of the activities, they are not expected to have an impact on the local climate. The vessel used for the surveys may release small amounts of emissions, however due to the short time period in which the vessel will be operational, effects which contribute to climate change are not expected. Therefore, the climate has not been considered further in this assessment.

1.5.14 Waste

The Marine Surveys are not expected to produce any waste. Several chemical monitoring points are located in Lot 1 Proposed Licence Area B, C and D, with active 'dumping at sea' sites also present close to the coastline in Areas B and C. However, the bathymetric surveys are short-term and are not expected to interfere with monitoring. Therefore, waste has not been considered further in this assessment.

1.5.15 Material Assets

There are no existing oil and gas production facilities, pipelines or cables expected within the Lot 1 Proposed Licence Areas A-D which could be affected by the surveys. Therefore, the Marine Surveys are not expected to interfere, or cause damage to, any material assets. Therefore, material assets have not been considered further in this assessment.

1.5.16 Interactions

There is the potential for the survey vessel to interact with fishing or recreational activity that may be occurring within the Lot 1 Proposed Licence Areas A-D. However, due to the short-term, temporary nature of the Marine Surveys, any interaction is expected to be minor. Therefore, interaction has not been considered further in this assessment.

1.5.17 Mitigation Summary

Although the operating frequency of survey equipment is below the hearing frequencies for marine mammals and fish, several mitigation measures will be put in place (see Section 1.5.7):

- Pre-start monitoring.

- Ramp-up procedure for equipment where that is possible.
- Breaks in sound output.
- Reporting.

1.6 Conclusion

The Marine Surveys do not fall within a class of the EIA directive requiring a mandatory EIA. However, projects which do not meet the threshold may still require an EIA if the project is likely to have significant effects on the environment. This report has assessed the implications of the Marine Surveys, alone and in-combination with other projects on the receiving environment. It concludes that, based on the scale and scope of the Marine Surveys and mitigation measures proposed, no significant impact on the receiving environment is likely.

Accordingly, the Marine Surveys are considered fully compliant with the requirements of the EIA Directive and its implementing Irish legislation, and a full EIA is not required.

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National Parks and Wildlife Service (NPWS). (2025). Sandbanks slightly covered by seawater at all times. [Online]. Available at: <https://www.npws.ie/marine/marine-habitats/sandbanks>. [Accessed: 26 March 2026].

O'Sullivan, D., O'Keeffe, E., Berry, A., Tully, O. and Clarke, M. (2013). An Inventory of Irish Herring Spawning Grounds. *Irish Fisheries Bulletin*, 42.

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Southall, B. L., Finneran, J. J., Reichmuth, C., Paul, E. Nachtigall, ... Tyack, P. L. (2019). Marine Mammal Noise Exposure Criteria: Updated Scientific Recommendations for Residual Hearing Effects. *Aquatic Mammals*, 45(2), 125-232

Appendix A Summary of Assessment of Impacts

Table A-1. Assessment of Environmental Impacts Considered in the Report

Environmental Conditions	Potential Impacts	Assessment Conclusion
Designated Sites	For a full assessment of impacts to European Sites, please see Attachment 4.3.	The environmental impacts to European designated sites with marine qualifying features resulting from the marine survey have been fully assessed in the Attachment 4.3, which concluded no significant effects
	Temporary physical disturbance to marine features of relevant pNHAs	Negligible and not significant
Benthic Habitats and Species	Temporary physical disturbance, to direct loss of or damage to benthic habitats and species	Negligible and not significant .
Fish (including aquaculture and commercial fisheries)	Temporary physical disturbance to fish species in the immediate vicinity of the deployment vessel and the deployment, operation and recovery of ADCP instruments	Negligible and not significant .
Marine mammals	See Annex IV Risk Assessment Report and SISAA	The environmental impacts to marine mammals resulting from the proposed works have been fully assessed in Attachment 4.4 and Attachment 4.3, which concluded no significant effects .
Birds	Temporary disturbance to birds due to the presence of vessels in the Study Area during deployment and recovery, interrupting foraging and loafing activities.	Negligible and not significant . The environmental impacts to birds with resulting from the proposed works have been fully assessed in the SISAA, which concluded no significant effects .
Cultural heritage	Damage or disturbance to heritage and archaeological features in the Study Area including shipwrecks from the deployment and recovery of ADCP instruments, and due to pollution of water from vessels associated with the proposed works	Negligible and not significant .