MERC Consultants
environmental and conservation services

Assessments of Impacts of the Maritime Usage Report

North Atlantic Shipwrecks Survey

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1. Introduction

1.1 Overview

SalvOcean Ltd is a limited liability company established in the United Kingdom with a USA subsidiary; specifically inaugurated as a project manager company to enable execution of marine surveys, salvage recoveries from shipwrecks, submerged ordnance handling and disposal, environmental impact surveys, and marine operations within the oil, gas, and renewables sectors on behalf of their clients.

SalvOcean wish to carry out non-intrusive subsea surveys on two shipwrecks (MV Accra and SS City of Simla), hereafter referred to as the "proposed project". The SS City of Simla lies within Irelands Exclusive Economic Zone (EEZ) and currently designated Irish Continental Shelf Maritime Boundary (CSMB), the MV Accra lies within Irelands CSMB (Figure 1).

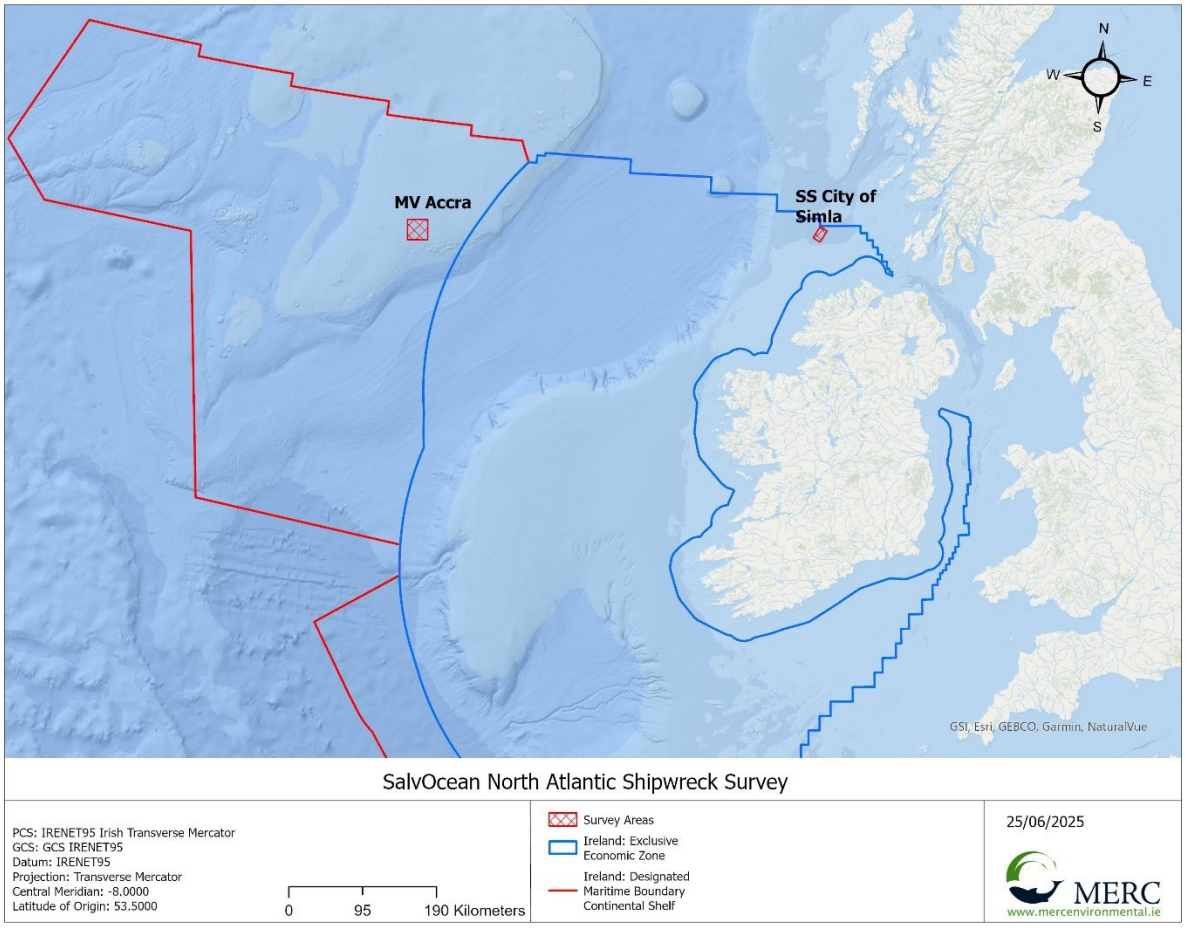

Figure 1. Location of proposed project

1.2 Objectives of this report

To allow the Competent Authority (MARA) to fully assess all potential impacts of the proposed maritime usage, this Assessment of Impact on the Maritime Usage (AIMU) report has examined the potential for project related impacts on the environment including the following elements:

- Assessment of impact on the environment with respect to the EIA Directive
- Assessment of conformity relative to the key objectives of the Water Framework Directive (WFD)
- Assessment of conformity relative to the key objectives of the Marine Strategy Framework Directive (MSFD)
- Assessment of consistency with the National Marine Planning Framework (NMPF)

2. Statement of Authority

This report was prepared by [redacted] and [redacted] of MERC Consultants. MERC are a specialist marine ecological survey and consultancy firm. Core staff have more than 60 years of combined experience and specialist knowledge in relation to Irish aquatic habitats and species in addition to the assessment and management of conservation interests. MERC were responsible for preparing the NPWS national monitoring of marine Annex I habitats for compliance under Article 17 of the EU Habitats Directive in the period 2015-2019. In this context MERC were responsible for the assessment and reporting of marine Annex I habitats in Ireland and were the authors of all Article 17 reports and overarching site monitoring reports. MERC are currently engaged in conducting surveys and preparing the relevant reports for the current (2022-2025) monitoring cycle.

In addition to their scientific expertise MERC have an in-depth knowledge of Irish and European Environmental legislation and policy. In 2011 MERC prepared the text describing Activities Requiring Consent (ARCs) for inclusion in a handbook detailing the regulatory framework for all developments within designated sites in Ireland on behalf of the National Parks and Wildlife Service. They have also produced numerous Conservation Management Plans for the same department. To-date MERC have conducted in excess of 200 ecological reports in support of Appropriate Assessment under Article 6(3) of the EU Habitats Directive.

[redacted] is a professional marine ecologist with a wide range of experience in the field of conservation biology, marine habitat mapping and ecology. She completed a M.Sc. in ecology and taxonomy at Trinity College Dublin in 1989 and a Ph.D. in taxonomy also at Trinity College Dublin in 2001. She is a full member of the Chartered Institute of Ecology and Environmental Management (CIEEM). For the last 20 years she has specialised in the ecology of marine ecosystems. She has specialised in the assessment of benthic habitats with a focus on intertidal and subtidal reef habitats and sensitive seabed species and habitats. Over the last 15 years she has conducted extensive marine monitoring surveys and assessments of EU Habitats Directive marine Annex I habitats and their associated species within European sites in Ireland to assist Ireland in complying with monitoring obligations under the EU Habitats Directive .

[redacted] is a professional marine ecologist with a wide range of experience in the ecology, survey, and monitoring of marine habitats and species in Ireland. He completed a Diploma in Science at Galway Regional Technical College in 1987 and a B.Sc. in Biological Sciences at Plymouth University in 1989. He is a full member of the Chartered Institute of Ecology and Environmental Management (CIEEM). He has extensive experience in the monitoring of benthic habitats and species in Ireland and was lead scientist for the mapping of sensitive subtidal species across a range of European sites in Ireland from 2006 to 2010. Over the last 30 years he has also specialised in the ecology of marine fish, and in this regard, provides expertise and review services with respect to assessment of anthropogenic impacts on shellfish, pelagic and demersal species. He has acted as a lead auditor for the Aquaculture Stewardship Council (ASC) and Marine Stewardship Council (MSC).

3. Details of the proposed project

3.1 Project location

The SS City of Simla lies within Irelands Exclusive Economic Zone (EEZ) and currently designated Irish Continental Shelf Maritime Boundary (CSMB), the MV Accra lies within Irelands CSMB (Figure 1). Further details on the location of each wreck site are provided below.

MV Accra (NA/C7-D)

The MV Accra is considered to be most likely positioned approximately 410km northwest of Annagh Head, Co. Mayo. The vessel was sunk due to a single torpedo strike and has never previously been located. However, a detailed analysis of the sinking event has been carried out and a subsequent target box for subsea surveys has been developed (Table 1).

Table 1. MV Accra known details

Year of loss	1940	
GPS / PA	PA	
Position (Decimal degrees)	55.6671577°N -16.4670974°W	
Water depth	450 meters (estimated)	
SSS Target box area	678 sqkm	
Estimated target box coordinates	NE corner	55.7960844N -16.2840706W
	SE corner	55.5636285N -16.2383094W
	SW corner	55.5372053N -16.6481826W
	NW corner	55.7694260N -16.6963327W
Estimated time for SSS	297 – hours / 12.4 -days (maximum)	
Estimated time for residual surveys	7 - days	

SS City of Simla (NA/C1-E)

The SS City of Simla is positioned approximately 72km northwest of Malin Head, Co. Donegal. The vessel was sunk due to torpedo strikes. The wreck is split into two sections and the location of the main body of the wreck is known. However, the location of the stern section (approx. 50 meters in length) has not been located to date. The purpose of this survey is to locate the missing stern section and to obtain detailed photogrammetry of both sections of the wreck. See Table 2 for the known details and survey target area.

Table 2. SS City of Simla known details

Year of loss	1940	
GPS / PA	GPS main body / PA missing stern section	
Position	55.9362568°N -8.1649909°W	
Water depth	175 meters	
SSS Target box area	178 sqkm	
Estimated target box coordinates	NE corner	55.9423227N -8.0739340W
	SE corner	55.8141417N -8.2192833W
	SW corner	55.8646599N -8.3613375W
	NW corner	55.9930073N -8.2162692W
Estimated time for SSS	120 – hours / 5 - days (maximum)	

3.2 Proposed survey work

The proposed project consists of a non-intrusive survey of two wreck sites as listed in Table 3. One wreck site (MV Accra) lies outside of Ireland's EEZ, but within the boundaries of the CSMB. The second wreck site (SS City of Simla) lies within the boundaries of Ireland's EEZ and CSMB. Both wreck sites are outside of Ireland's 12-mile territorial and 24-mile contiguous zones (Figure 1.).

The timing for carrying out the survey works at both wreck sites will ideally occur between March and November due to this being the best seasonal weather. Surveys will run simultaneously as opposed to being individual operations and operate on a 24-hour basis. All of the proposed survey elements are given in Table 3 below.

Table 3. Proposed survey elements

Survey type	Wreck	
	MV Accra (NA/C7-D)	SS City of Simla (NA/CI-E)
Side Scan Sonar (SSS) survey	√	√
Multibeam echosounder (MBES) Survey	√	√
Sub-bottom profile (SBP) survey	√	√
Photogrammetry survey	√	√
Environmental survey	√	√
Hydrocarbon leak detection survey	√	√
Cultural heritage assessment survey	√	√

Survey equipment

A suite of mapping instruments will be used for the survey as detailed in Table 4 and described below. Survey operations at each of the two wreck sites remain consistent. However, where a wreck is deemed as a Position Approximate (PA), then a Side Scan Survey (SSS) will be carried out to first locate the wreck prior to commencing a detailed survey. Where SSS is required, it shall be conducted within the predetermined 'target boxes', see Table 1 and Table 2.

Table 4. Equipment specification and sound pressure levels*

Equipment	Model	Deployment	Company	Sound Pressure Level Source Level (dB re 1 µPa)
Survey vessel	Glomar supporter or similar	Ocean Surface	Bharati Shipyard Goa, India	165–175
Vessel DP	DP2 Kongsberg Kpos 21	Hull mounted	Kongsberg	178
Acoustic Transponders	EdgeTech CAT Coastal Acoustic Transponder	Equipment mounted	EdgeTech	192
Obstacle Avoidance Sonars	Teledyne	Equipment mounted	Teledyne	160 to 180

Underwater Navigational Signals	Sonardyne Compatt 6 8300-3111 (USBL)	Equipment mounted	Sonardyne	187-196
Work Class ROV	Millennium® Plus Work Class ROV	Launched from Vessel	Oceaneering	130-160
Work Class ROV	Schilling Robotics HD Work Class ROV	Launched from Vessel	Schilling	130-160
Side Scan Sonar	EdgeTech 4200 Series	Towed System	EdgeTech	195-205
MBES	Sonic-V Series 2020,2022,2024,2025	Hull mounted	R2 Sonic	196-224
Ultra-High Resolution MBES	Teledyne RESON SeaBat® 7125	ROV Mounted	Teledyne	196-224
Sub Bottom Profiler	EdgeTech 3300	Hull Mounted	Hull Mounted	167-175
Sub Bottom Profiler	Immomar - Standard ROV	ROV mounted	Innomar Technologie	240

* While SalvOcean cannot categorically state it will be the exact models as listed, should alternatives be utilised then the sound pressure levels will fall within the parameters detailed in this table.

Survey vessel

As a survey vessel will be chartered, the specific vessel cannot be confirmed at this stage. However, the below vessel specification can be used as an 'example' vessel for the survey phase.

Glomar Supporter **MMSI: 352110000** **Call sign: 3EKK8** **IMO Number: 9344227** **Flag: Panama**	
Length OA	60.00m
Beam	15.20m
Draft Max (Loaded)	5.00m
Classification (RINA)	*C X SUPPLY VESSEL; FIRE-FIGHTING SHIP – 1 – WATER-SPRAYING; UNRESTRICTED NAVIGATION* *X AUT-UMS X DYNAPOS DP2; SPS*
DP Type	DP2 – Kongsberg Kpos 21

Multibeam echosounder

A multibeam echosounder (MBES) is a type of sonar, frequently used to map bathymetry, and is also used to provide the data required to map shipwrecks. It operates by emitting an acoustic wave in a fan shape beneath the point of its transceiver attached to the hull of the vessel. The time it takes for the sound waves to bounce off the seabed and return to the transceiver is used to calculate depths within the arc of the fan. The proposed MBES operates at a sound pressure level of 196-224 dB re 1µPa at 1m. Typical peak frequency is between 200-400 kHz.

Sub-bottom profiler

A Sub-bottom profiler employs an acoustic signal, to provide the information required to identify and measure marine sediment layers that exist below the sediment/water interface. The proposed equipment comprises an EdgeTech 3300 Hull mounted system, operating at a sound pressure level of 165-175 dB re 1µPa at 1m.

Side scan sonar

Side scan sonar (SSS) is another device that transmits sound pulses that is frequently used to map the seabed and in the detection of submerged objects such as shipwrecks. It differs from MBES in that SSS has a finer beam width and smaller footprint to MBES and therefore higher resolution. It will be towed behind the vessel very close to the seabed. SSS emits fan-shaped acoustic pulses, directed down toward the seafloor, which are recorded as a series of cross-tracks. The sound frequencies used by side-scan sonar generally range from 100 to 1000kHz; higher frequencies yielding better resolution but less range. The proposed EdgeTech SSS to be used operates at 195-205 dB re 1µPa at 1m.

Additional acoustic transponders

A number of additional transponders, as given in Table 3, will be required to aid position fixing of the equipment deployed. All transponders operate by emitting and receiving acoustic signals and measuring time to calculate distance and direction by analysing the returning signal.

Survey campaign

Routing and planned schedule

The current proposed mobilisation port is Aberdeen, Scotland. However, options closer to the operational areas are currently being considered.

The planned routing of the survey vessel after departure from mobilisation port will be over the north coast of Scotland before engaging at site NA/C7-D (MV Accra), once operations are completed the vessel will then transit due east to the second wreck site NA/C1-E (SS City of Simla).

Hull mounted MBES and SSS

Wreck sites deemed Position Approximate (PA) will require the ‘scanning’ of a predetermined target box to locate the actual shipwreck within. The most efficient method identified for carrying out the

scans is by means of a hull mounted MBES system. The hull mounted dual-head MBES system will allow the seabed to be scanned at a vessel speed of 4.5 knots.

To aid in identifying further anomalies, a towed side scan sonar (SSS) system will be utilised at the same time as the MBES.

General visual inspection of the wreck

A video survey will be conducted at the shipwreck and close vicinities. The adjacent areas will be surveyed to confirm the location of debris, fishing nets etc.

Digital video acquisition

One or several cameras, mounted on a ROV, will be used to record the visual monitoring of the wrecks and adjacent areas during the surveys.

Multi Beam Echo Sounder survey

The MBES will acquire data continuously during the survey. The MBES settings shall be optimised to provide the best profile quality and ensure the ping interval is set to achieve the required sounding density. It would be expected to achieve a density of 2-3 soundings for each cell at a ping rate of 10 Hz. This provides a real-time DTM so the data density can be reviewed. The ping rate can subsequently be increased or decreased as required.

Sub Bottom Profiler survey

Where necessary, a SBP survey will be carried out.

Hydrocarbon Leak Detection survey

Where considered necessary, a hydrocarbons/HNS survey will be carried out at the wreck site. As hydrocarbons can be considered as lighter in weight than seawater, such substances if emitting from a shipwreck can be detected using the ROV's OAS. A suitable grid will be overlaid on the survey navigation screen to allow the ROV to make passes across the wreck while detecting for emissions.

Photogrammetry survey

Photogrammetry of each wreck will be carried out by collecting imagery of the wrecks and their environs by a ROV mounted SubSLAM X2 system, an underwater camera system.

4. Methods

A report containing Supporting Information for Screening for Appropriate Assessment (MERC, 2025a), a Natura Impact Statement (MERC, 20205b) and an Annex IV Risk Assessment (MERC, 2025c) have also been carried out to support this licence application. These reports were consulted during the preparation of this AIMU report.

This AIMU report has been prepared with reference to the following European Directives, national legislation and guidance on the provisions of, *inter alia*, the Environmental Impact Assessment Directive.

- 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 (EIA Directive) (Codified Directive).
- Guidelines on the information to be contained in Environmental Impact Assessment Reports (EPA, 2022).
- Technical Guidance note: Obtaining a licence to carry out specified maritime usages in the Maritime Area under the Maritime Area Planning Act 2021. MARA, 2024 Ver 5.
- European Communities (Birds and Natural Habitats) Regulations 2011. SI No. 477 of 2011.
- Managing Natura 2000 sites: The provisions of Article 6 of the 'Habitats' Directive 92/43/EEC. European Commission 2018. 7621 final. Office for Official Publications of the European Communities, Luxembourg.
- Guidance to Manage the Risk to Marine Mammals from Man-made Sound Sources in Irish Waters. Department of Arts, Heritage and the Gaeltacht, 2014.

A review of the baseline data was carried out by referring to the following reports and datasets:

- Department of Housing, Local Government and Heritage. National monuments service; wreck viewer.
- Integrated Mapping for the Sustainable Development of Ireland's Marine Resource (INFOMAR) 2025. Bathymetry, backscatter, sediment samples and sediment classification layers.
- Marine Institute (2025). Ireland's Marine Atlas: Fishing activity and Fish Species Distribution Layers
- Irish Ramsar Wetlands Committee (2025). Ramsar sites Ireland.
- NPWS Designations viewer (SACs, SPAs, NHAs and pNHAs)
- Biodiversity Data Centre Maps: Habitats and Species.
- MERC (2025a). Supporting Information for Screening for Appropriate Assessment: North Atlantic Shipwrecks Survey.
- MERC (2025b). Natura Impact Statement: North Atlantic Shipwrecks Survey.
- MERC (2025c). EU Habitats Directive: Annex IV Risk Assessment: North Atlantic Shipwrecks Survey.

5. Environmental Report (EIA Directive: not of a class)

5.1 Background

The objective of Directive 2011/92/EU on the assessment of the effects of certain public and private projects on the environment (the Environmental Impact Assessment, or 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 required for all projects detailed in Annex I of the EIA Directive and for all projects detailed in Annex II where the proposed project is likely to have significant effects on the environment. The proposed project does not fall within the classes defined under Annex I or Annex II of the EIA Directive. Therefore, it is not subject to the provisions of the EIA Directive.

Notwithstanding the fact that the proposed project is not subject to mandatory EIA, this AIMU has assessed the project relative to its potential to impact the receiving environment by virtue, *inter alia*, of its nature, size and location.

As such the following elements have been assessed and an analysis of the assessment is given in Table 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

5.2 Assessment of Impact

The Zone of Influence (ZoI) of the proposed project was established in the preparation of the SISAA (MERC, 2025a).

No direct or indirect pathway to freshwater, coastal or terrestrial habitats was established. For this reason the baseline of the receiving environment is focused solely on marine habitats, and species including marine mammals, fish and avifauna that utilise the marine environment.

The bathymetry and predominant habitat types in the area is known from INFOMAR data. A description of the ecology of the receiving environment is provided in the SISAA (MERC, 2025a). Table 5 below provides a summary of the environmental baseline and an assessment of the potential for impact on the environment.

Table 5. Environmental baseline and assessment of impact

Protected sites
European sites (SAC's and SPA's)
There is no spatial overlap between the proposed project area and any European site. However, a number of European sites are present within the ZoI of the proposed project. A SISAA report (MERC, 2025a) has been provided as part of this application. The SISAA report identified all European sites within the ZoI of the proposed project and concluded that the proposed project may give rise to significant effects on the conservation objectives of a number of European sites without mitigation. Subsequently, a Natura Impact Assessment (NIS) of the proposed project was carried out and mitigation proposed to avoid significant adverse effects on European sites (MERC, 2025b). The NIS concluded that, provided the mitigation recommended was implemented, the proposed project would not have any significant adverse effects on any European sites.
Additional designations (NHAs, pNHAs, Ramsar sites)
The proposed project is entirely marine and the SISAA did not identify any source path receptor link to any terrestrial, coastal or freshwater habitats or species. The SS City of Simla is positioned approximately 72km northwest of Malin Head, Co. Donegal. The MV Accra is most likely positioned approximately 410km northwest of Annagh Head, Co. Mayo. As such both wreck sites, and the proposed survey areas do not overlap with any additional designations (NHAs. pNHAs or Ramsar sites). The nearest additional designation being Tory Island pNHA which is 60km south of the proposed survey area associated with the SS City of Simla.
Non-statutory Environmental Assessment
Population and Human Health
All acoustic surveys will be fully marine. Minor inconvenience may be encountered by fishing vessel operators during survey activities but this will be temporary and for a short time period. There is no potential for pollution as the survey vessel will be MARPOL compliant and there is no hydrocarbon usage associated with the survey equipment.
Biodiversity
<u>Benthic habitats</u> The MV Accra is located on the Rockhall Bank at a depth of approximately 450m. The seabed in this general area is somewhat known from INFOMAR (Integrated Mapping for the Sustainable Development of Ireland's Marine Resource) surveys and additional surveys carried out as part of the SeaRover project. The predominant habitat type within the proposed MUL area is classified as Upper Slope (<200m & >750m). The upper bank, within the proposed licence area is shown to be relatively level and limited sampling of the area suggests it consists of poorly sorted gravelly sand and areas of Gravelly Muddy Sand with ribbons of coarser material. The bank margins are known to host the cold water coral

(*Lophelia pertusa*) although these areas are approximately 20km east of the proposed MUL licence area.

The SS City of Simla is located approximately 72km northwest of Malin Head, Co. Donegal at a depth of approximately 175m. The seabed within the area of the proposed MUL is well known from INFOMAR surveys including Shipek Grabs. The predominant habitat type is classified as a mosaic of shelf sublittoral sand and Shelf sublittoral mud. Shipek grabs describe the sediment as a mosaic of silty sand and broken shell fragments. However, poor grab recovery rates in some areas indicate the likelihood of coarser sediments. Conspicuous epifauna included brittle stars, squat lobster, shrimp and urchins in some samples recovered.

There are no records of any sensitive habitats or species within the survey areas. No intrusive equipment is proposed and there is no requirement for any contact with the seabed at any time. Therefore, impacts on benthic habitats and their associated species are not considered possible.

Coastal and terrestrial habitats

Not relevant. The proposed project is entirely within the subtidal marine environment and no direct or indirect links to coastal, freshwater or terrestrial habitats are possible.

Avifauna

The proposed project area provides foraging habitat for seabirds. Following a full review of the available data and the potential for impact on bird species, the SISAA (MERC, 2025a) concluded that a number of deeper diving seabirds may utilise the proposed survey area during the breeding season. However, the NIS determined that disturbance to seabirds, should they be foraging in the area at the same time as the proposed survey, would not be above background vessel levels and therefore no potential for significant adverse effects were likely. The NIS further concluded that, while it is recognised that diving birds can be sensitive to disturbance from underwater noise, there is a low likelihood of interaction between the sound source and diving birds due to the relatively short exposure time, temporary nature of the survey work, mobile nature of the birds and the displacement of most diving species due to flushing disturbance. Therefore, it is considered that underwater noise would be unlikely to have a significant adverse effect on diving seabirds in the vicinity of the survey area.

Marine Mammals

A total of 26 cetacean species have been recorded in Ireland. A marine Mammal Database compiled and managed by the National Biodiversity Data Centre has collated data from numerous sources (e.g. Irish Whale and Dolphin Group, ObSERVE project) on the distribution of cetaceans off the coast of Ireland. ICES's Working Group on Marine Mammal Ecology (WGMME) has also collated several relevant survey datasets for British and Scottish waters including the SCANS-IV multidenominational survey. These data sources show that the areas surrounding the proposed project locations are used by a wide range of cetacean species. The density and distribution of which varies over time and season.

These data include live sightings of Common Dolphin (*Delphinus delphis*), Bottlenose Dolphin (*Tursiops truncates*), Risso Dolphin (*Grampus griseus*), White Sided Dolphin (*Lagenorhynchus acutus*), White

Beaked Dolphin (*Lagenorhynchus albirostris*) Common/Harbour Porpoise (*Phocoena phocoena*), Pilot Whale (*Globicephala*), Fin Whale (*Balaenoptera physalus*), Humpback Whale (*Megaptera novaeangliae*), Sperm Whale (*Physeter macrocephalus*) and Minke Whale (*Balaenoptera acutorostrata*), in the general area of the proposed surveys. The proposed project consists of a non-intrusive survey, therefore, the only potential for impacts are associated with disturbance and noise. The maximum area of direct impact, for disturbance and noise, is estimated to be the direct area of the survey i.e. the MUL licence area as determined in the SISAA (MERC, 2025a).

An Annex IV Risk Assessment was prepared for the proposed project (MERC 2025c). This assessment indicated the potential for impacts on a number of cetacean species should they be present in the proposed project area during selected elements of the acoustic survey. As such mitigation was proposed and this has been included in the "Summary of Mitigation" provided below.

In a similar manner to that identified in the Annex IV Risk assessment, it is considered that without mitigation, impacts on pinnipeds, including grey seal, may occur, without mitigation. However, provided the mitigation detailed in this AIMU report is implemented no potential for impact on pinnipeds is considered likely.

Fish

Commercial fisheries

The proposed survey areas, for both wreck sites, are outside of the Irish inshore fishing area for all commercial species.

The following gear types are used by Irish and international offshore fleets at the proposed survey area of the SS. City of Simla. There is no indicated fishing effort for either fleet at the proposed survey area of the MV Accra. Fishing effort is collated from vessel monitoring systems, logbooks and the EU fleet register. See Figure 2 to Figure 9 for maps showing the distribution of the fishing effort given below

- Irish Bottom otter trawl
- Irish Pelagic trawls
- Irish Pots
- International long lines
- International Bottom otter trawl
- International Pelagic trawls
- International Pots

The waters surrounding the proposed MUL area host spawning and nursery ground for a range of commercially fished species including Haddock, Hake, Herring, Megrim, Horse Mackerel, Mackerel and Nephrops. The areas where these spawning and nursery grounds overlap with the proposed MUL area are shown in Figure 10 to Figure 16.

Vessel noise would not be above background levels for the MUL area and does not have the potential to lead to any noise related, or other, impacts on commercial fisheries. A noise modelling and environmental risk assessment (Thomsen *et al*, 2023) was carried out for the use of as suite of instrumentation, with many similar instruments, to that proposed for this project. This modelling

report assessed the potential for impact as a result of the use of the proposed acoustic equipment on Atlantic Herring. Atlantic Herring was used as a proxy for fish containing a swim bladder, such as the other commercial fish species detailed above.

While a behavioural response is possible, it is considered that this would only have the potential to lead to temporary disturbance, over a short duration (days) and would therefore, not have the potential to lead to impacts on the fishery especially given the magnitude of the minor impact relative to the large nursery and spawning area available to these species. Only minimal impact related to disturbance of fishing activities is possible. However, it will be localised and short term.

Annex II fish species

The SISAA (MERC, 2024a) demonstrated that proposed project did not have the potential for impact on any Annex II fish species.

Aquaculture

There are no aquaculture sites within the proposed project area or its environs.

Water, Air and Climate

While emissions to air as a result of vessel exhausts is unavoidable the level of such emissions would not be significantly above background levels in this area and would not have the potential to lead to Air Quality standards being exceeded. Therefore no Likely significant effects to air quality are anticipated. The proposed survey vessel is MARPOL compliant and regulated by the stringent control of waste, waste water and non-indigenous species. As such, no waste production is associated with the proposed project.

The project does not have the potential to impact climate change trends.

Cultural heritage

A review of the National Monuments Service wreck viewer and INFOMAR wreck data has been carried out. These data indicate a number of wreck sites off the northwest of Ireland (Figure 17), including additional wrecks, i.e. other than the target wrecks, within very close proximity to both the MV Accra and SS City of Simla. However, as the proposed project consists entirely of a non-intrusive acoustic and imaging survey, there is no potential for any negative effects on either the target wrecks or any additional wrecks. No physical contact with any shipwreck will be made at any time.

Material Assets

No potential for any interaction with material assets has been identified. No infrastructure (e.g. subsea electrical or telecoms cables) or other marine based infrastructure is located within the proposed project area. The proposed project will have no physical interaction with the seabed that could affect material assets.

Cumulative impacts

Cumulative impacts were assessed as part of the preparation of the SISAA (MERC, 2025a). This report concluded that following a review of current sources of information for marine based projects or plans, none were identified that could lead to the potential for cumulative impacts with the proposed project. Cumulative impacts on other aspects of the environment, outside of the Natura 2000 network, are not

considered possible due to the scale and scope of the proposed project and the findings of this AIMU report.

Summary of mitigations

The Annex IV Risk Assessment carried out in support of this project (MERC, 2024c) concluded that without mitigation the proposed project had the potential to cause disturbance to a number of Annex IV species should they be present in the area during surveys. To mitigate this potential for impact the following mitigation was proposed and is also recommended as part of the AIMU report:

NPWS (2014) provides guidance to manage the risk to marine mammals from man-made sound sources in Irish waters. This document provides guidance and mitigation measures to address key potential sources of anthropogenic sound that may impact negatively on marine mammals in Irish waters. The mitigation methods should follow the guidance prescribed by the National Parks and Wildlife Service. Specifically, in relation to Geophysical acoustic surveys, such as proposed in this project, the guidance set out in NPWS (2014), as stated below, should be fully implemented.

1. 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 (Appendix 6, NPWS, 2014).
2. Unless information specific to the location and/or plan/project is otherwise available to inform the mitigation process (e.g., specific sound propagation and/or attenuation data) and a distance modification has been agreed with the Regulatory Authority, acoustic surveying using the above equipment shall not commence if marine mammals are detected within a 500m radial distance of the sound source intended for use, i.e., within the Monitored Zone.

Pre-Start Monitoring

3. Sound-producing activities shall only commence in daylight hours where effective visual monitoring, as performed and determined by the MMO, has been achieved. Where effective visual monitoring, as determined by the MMO, is not possible the sound-producing activities shall be postponed until effective visual monitoring is possible.
4. An agreed and clear on-site communication signal must be used between the MMO and the Works Superintendent as to whether the relevant activity may or may not proceed, or resume following a break (see below). It shall only proceed on positive confirmation with the MMO.
5. In waters up to 200m deep, the MMO shall conduct pre-start-up constant effort monitoring at least 30 minutes before the sound-producing activity is due to commence. Sound-producing activity shall not commence until at least 30 minutes have elapsed with no marine mammals detected within the Monitored Zone by the MMO.
6. This prescribed Pre-Start Monitoring shall subsequently be followed by a Ramp-Up Procedure which should include continued monitoring by the MMO.

Ramp-up Procedure

7. In commencing an acoustic survey operation using the proposed acoustic equipment, the following Ramp-up Procedure (i.e., “soft-start”) must be used, including during any testing of acoustic sources, where the output peak sound pressure level from any source exceeds 170

dB re: 1µPa @1m:

(a) Where it is possible according to the operational parameters of the equipment concerned, the device's acoustic energy output shall commence from a lower energy start-up (i.e., a peak sound pressure level not exceeding 170 dB re: 1µPa @1m) and thereafter be allowed to gradually build up to the necessary maximum output over a period of 20 minutes.

(b) This controlled build-up of acoustic energy output shall occur in consistent stages to provide a steady and gradual increase over the ramp-up period.

(c) Where the acoustic output measures outlined in steps (a) and (b) are not possible according to the operational parameters of any such equipment, the device shall be switched "on" and "off" in a consistent sequential manner over a period of 20 minutes prior to commencement of the full necessary output.

8. In all cases where a Ramp-Up Procedure is employed the delay between the end of ramp-up and the necessary full output must be minimised to prevent unnecessary high-level sound introduction into the environment.

9. Once the Ramp-Up Procedure commences, there is no requirement to halt or discontinue the procedure at night-time, nor if weather or visibility conditions deteriorate nor if marine mammals occur within a 500m radial distance of the sound source, i.e., within the Monitored Zone.

Line Changes

10. Where the duration of a survey line or station change will be greater than 40 minutes the activity shall, on completion of the line/station being surveyed, either

(a) shut down and undertake full Pre-Start Monitoring, followed by a Ramp-Up Procedure for recommencement, or

(b) undergo a major reduction in seismic energy output to a lower energy state[1] where the output peak sound pressure level from any operating source is 165-170 dB re: 1µPa @1m, and then undertake a full Ramp-Up Procedure for recommencement.

11. Where the duration of a survey line or station change will be less than 40 minutes the activity may continue as normal (i.e., under full seismic output)

Breaks in sound output

12. If there is a break in sound output for a period greater than 30 minutes (e.g., due to equipment failure, shut-down, survey line or station change) then all Pre-Start Monitoring and a subsequent Ramp-up Procedure (where appropriate following Pre-Start Monitoring) must be undertaken.

13. For higher output survey operations which have the potential to produce injurious levels of underwater sound (see sections 2.4, 3.2) as informed by the associated risk assessment, there is likely to be a regulatory requirement to adopt a shorter 5–10-minute break limit after which period all Pre-Start Monitoring and a subsequent Ramp-up Procedure (where appropriate following Pre-Start Monitoring) shall recommence as for start-up.

[1] *It is important that this significant reduction in sound output is to a minimum point (i.e., minimum peak sound pressure level) that in theory remains audible above most ambient sound and shipping noise and yet is also consistent with the Ramp-up Procedure.*

Reporting

14. Full reporting on MMO operations and mitigation undertaken must be provided to the Regulatory Authority as outlined in Appendix 6 of NPWS (2014).

5.3. Conclusion. EIA Directive (not of a class)

The proposed project is not of a class whereby mandatory Environmental Impact Assessment (EIA) is required. 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 AIMU report has assessed the implications of the project, alone and in-combination with other projects on the receiving environment. It concludes that, based on the scale and scope of the proposed project and mitigation measures proposed, no impact on the receiving environment is likely. Therefore EIA is not required.

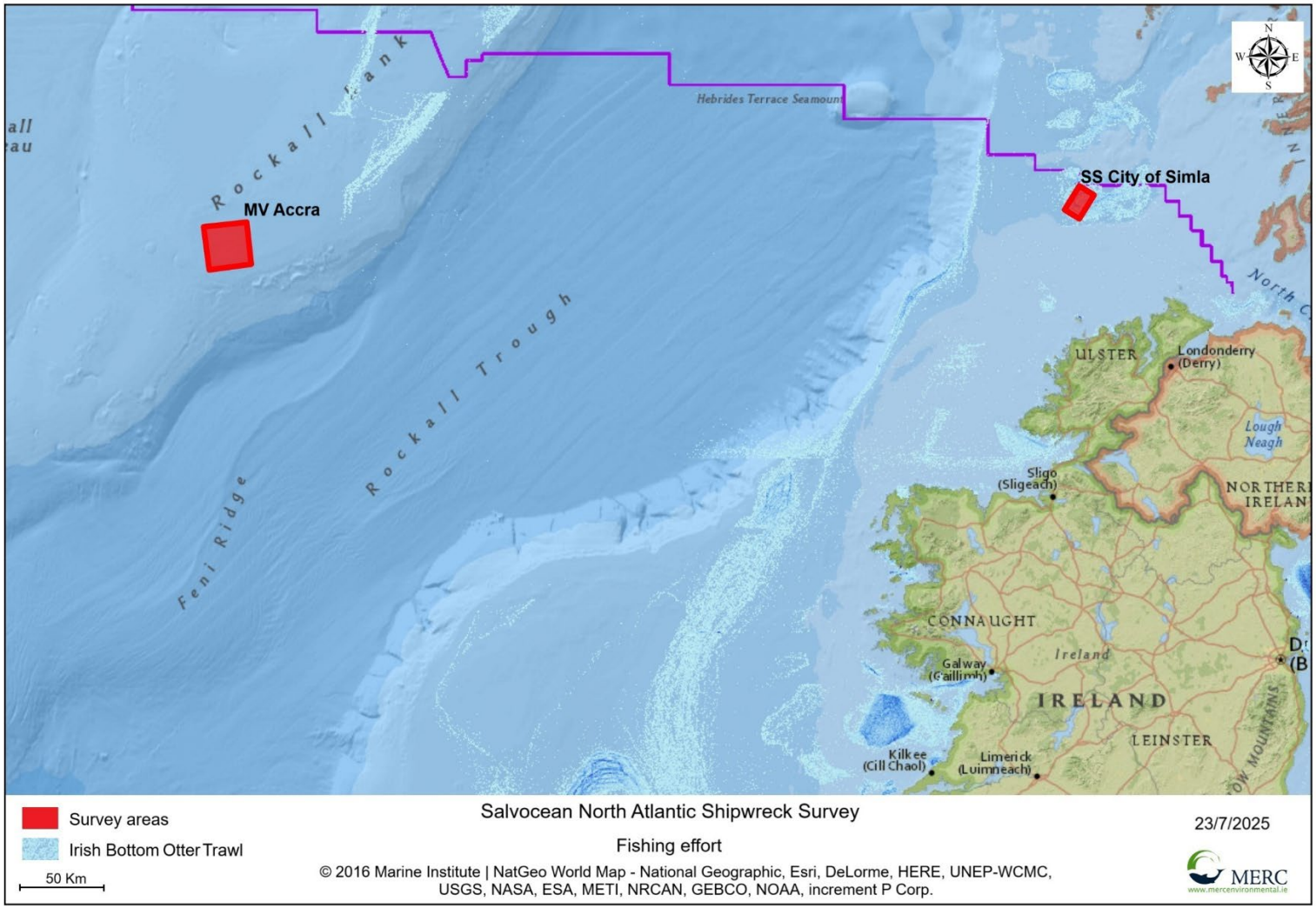

Figure 2. Fishing effort: Irish bottom trawls

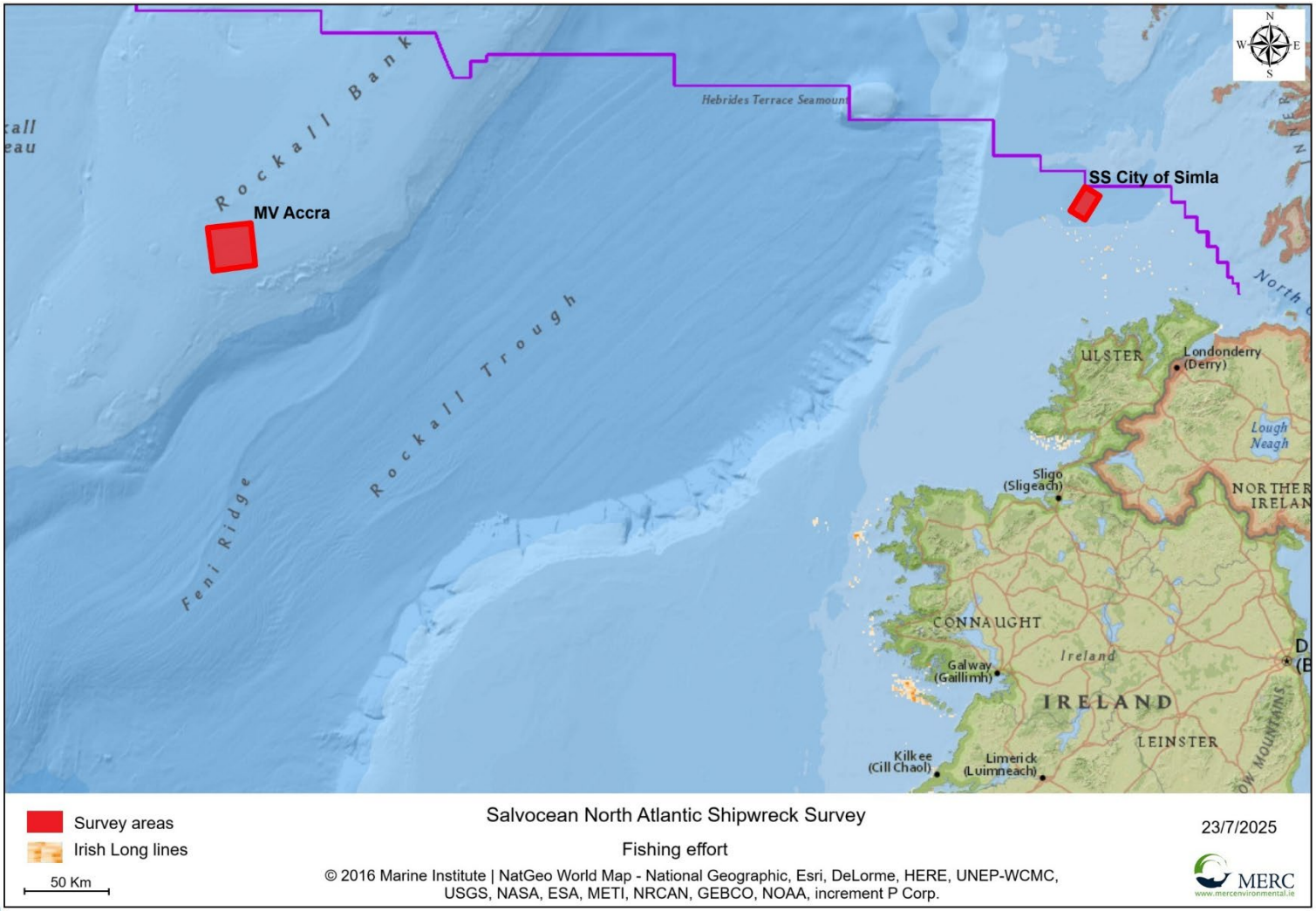

Figure 3. Fishing effort: Irish long lines

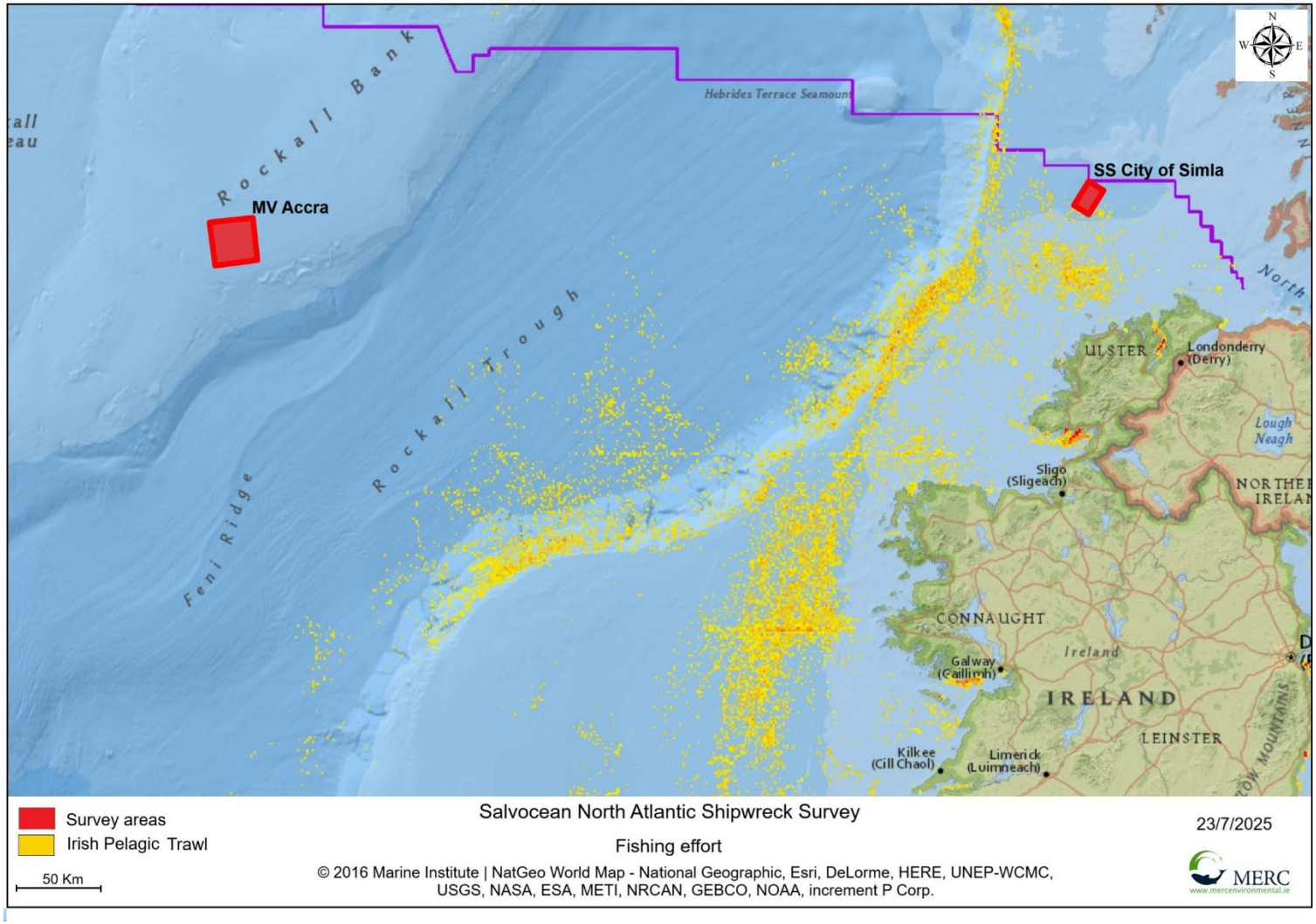

Figure 4. Fishing effort: Irish pelagic trawls

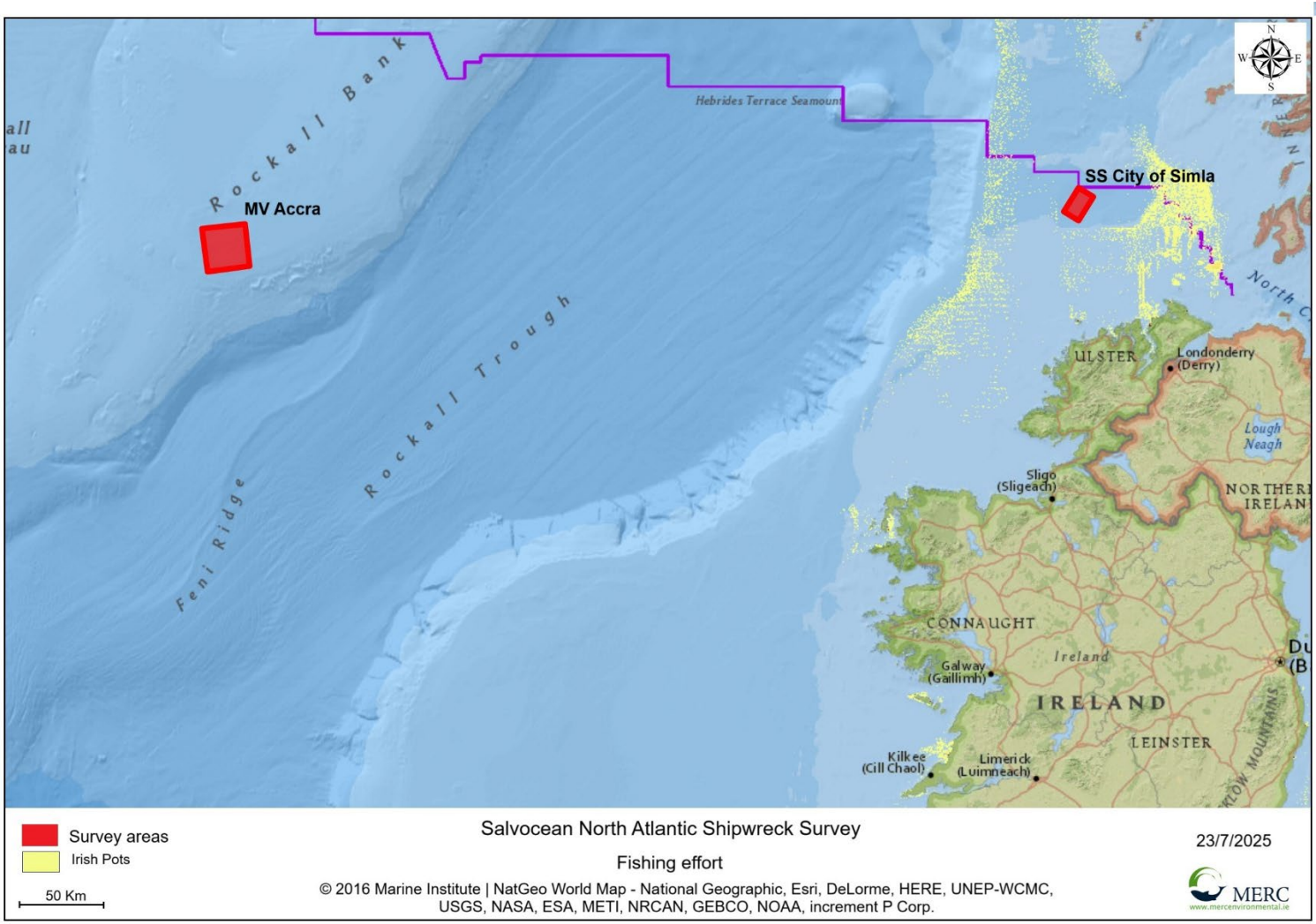

Figure 5. Fishing effort: Irish pots

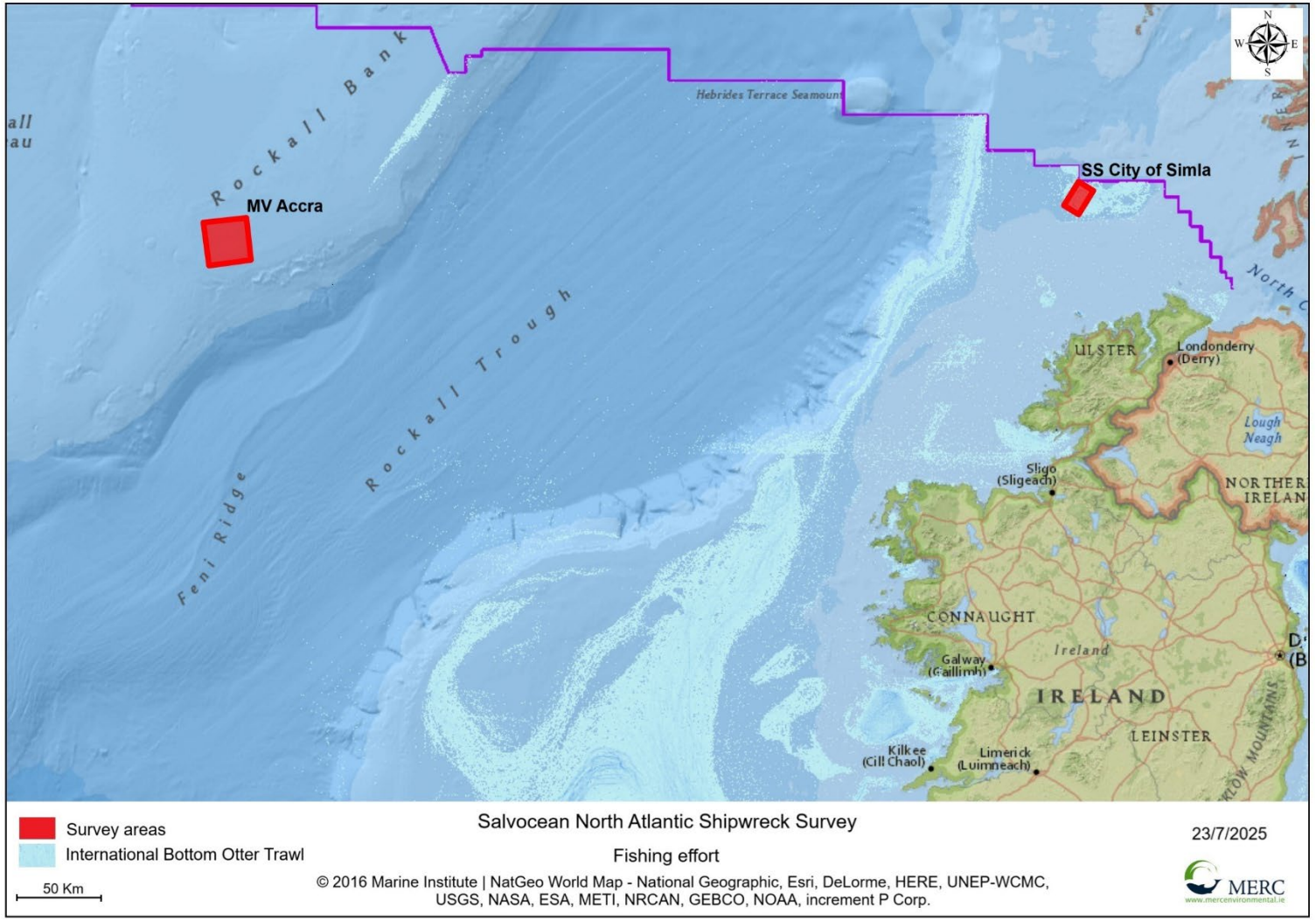

Figure 6. Fishing effort: International bottom otter trawl

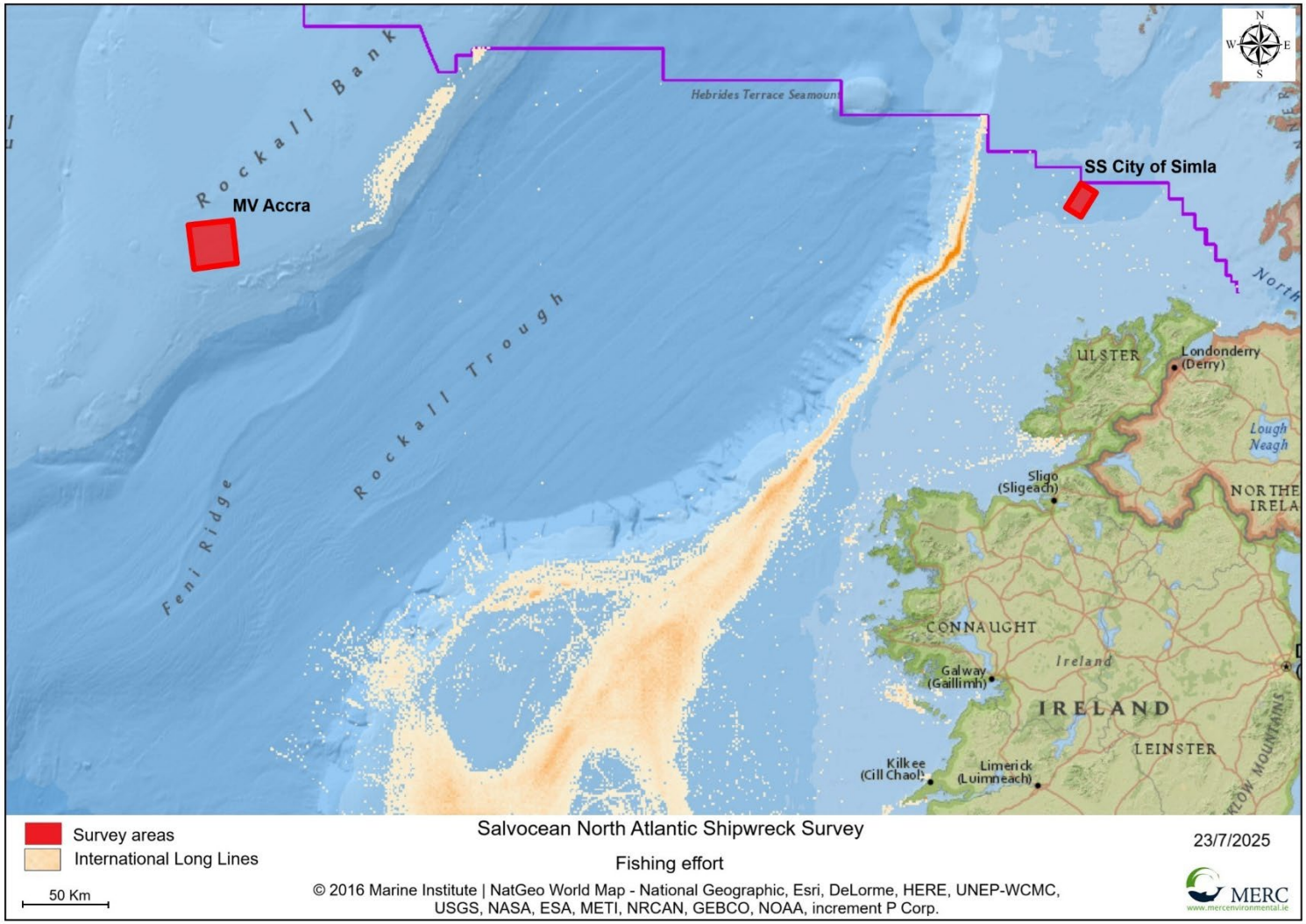

Figure 7. Fishing Effort: International long lines

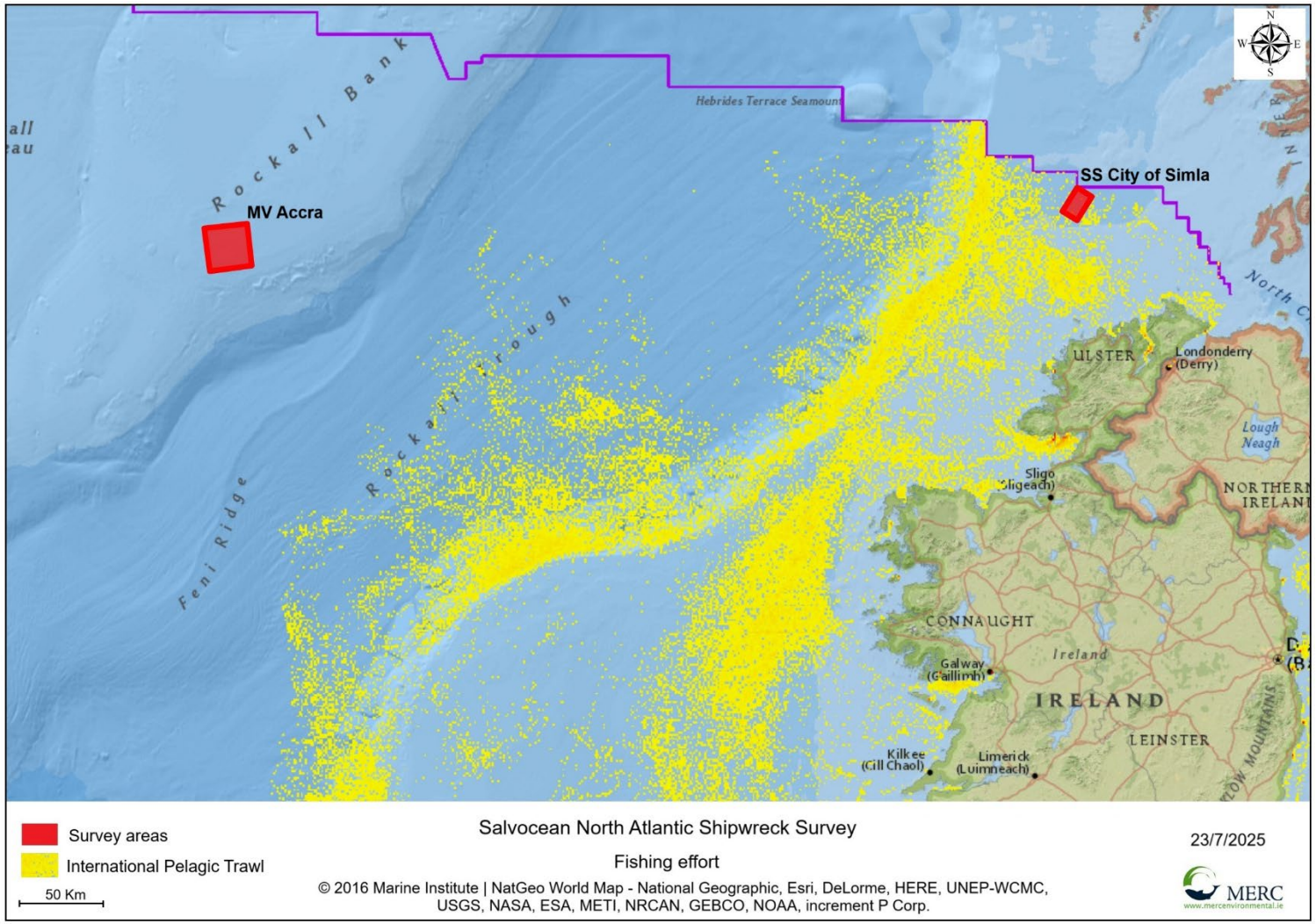

Figure 8. Fishing Effort: International pelagic trawl

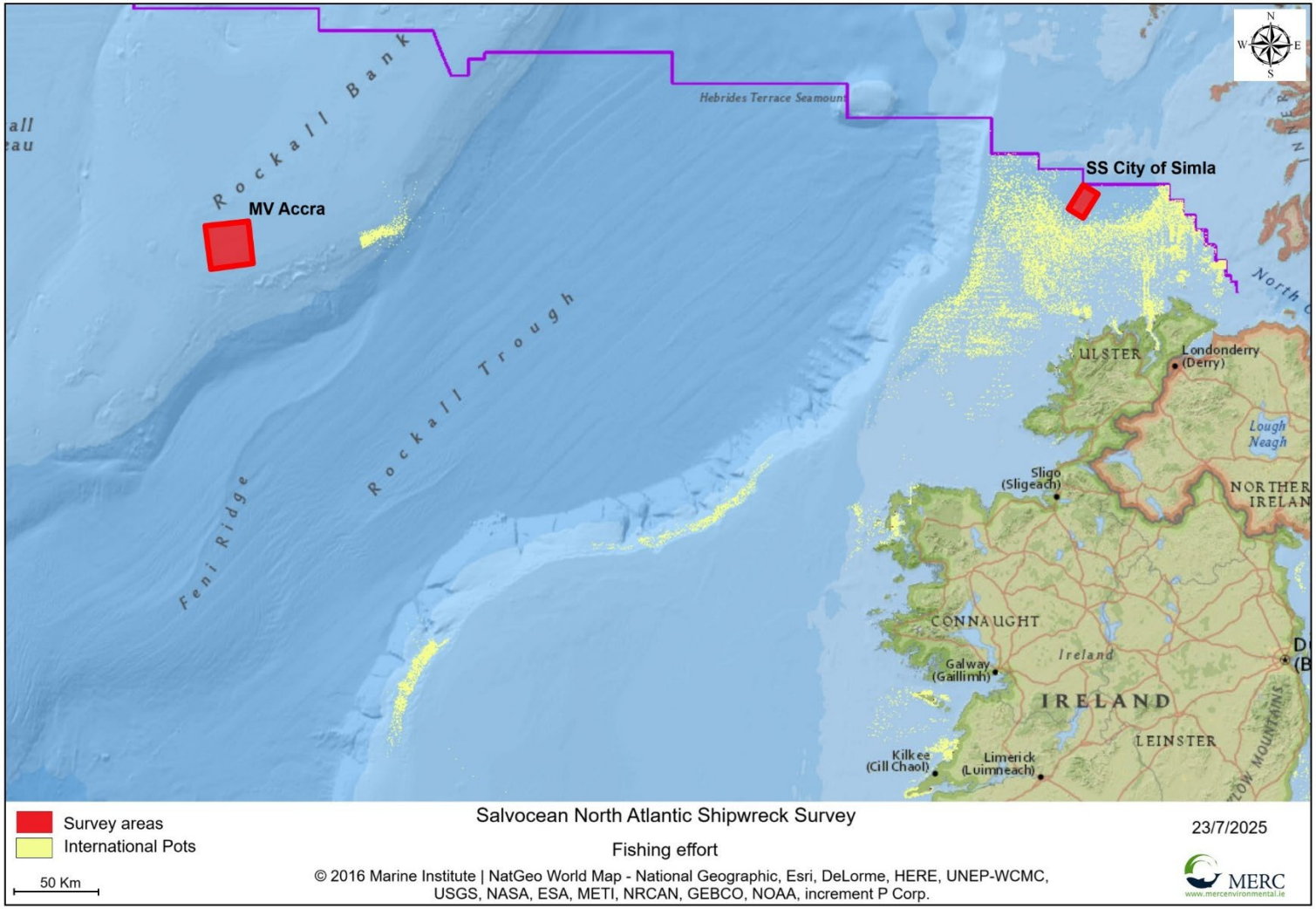

Figure 9. Fishing Effort: International Pots

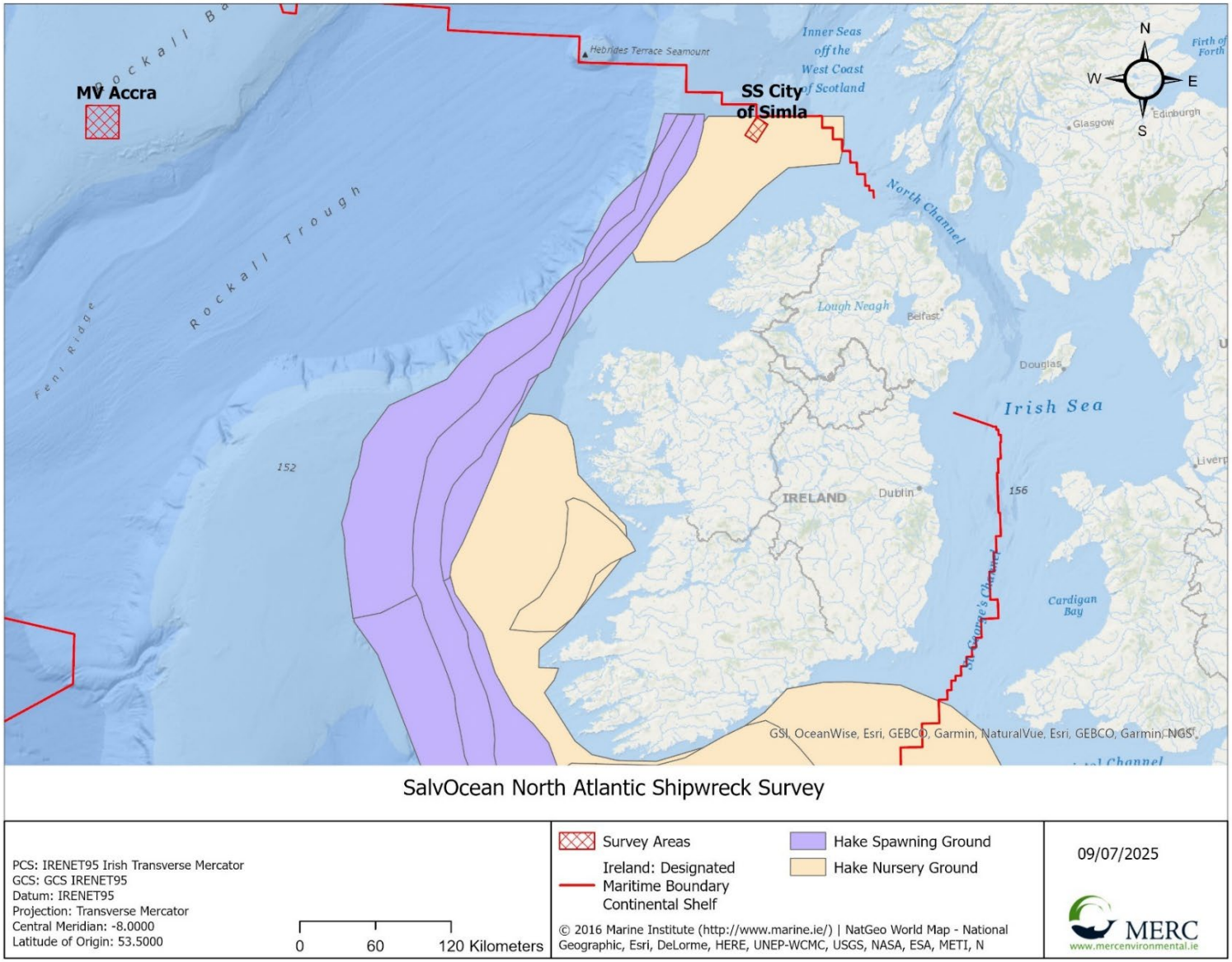

Figure 10. Hake Spawning and Nursery ground

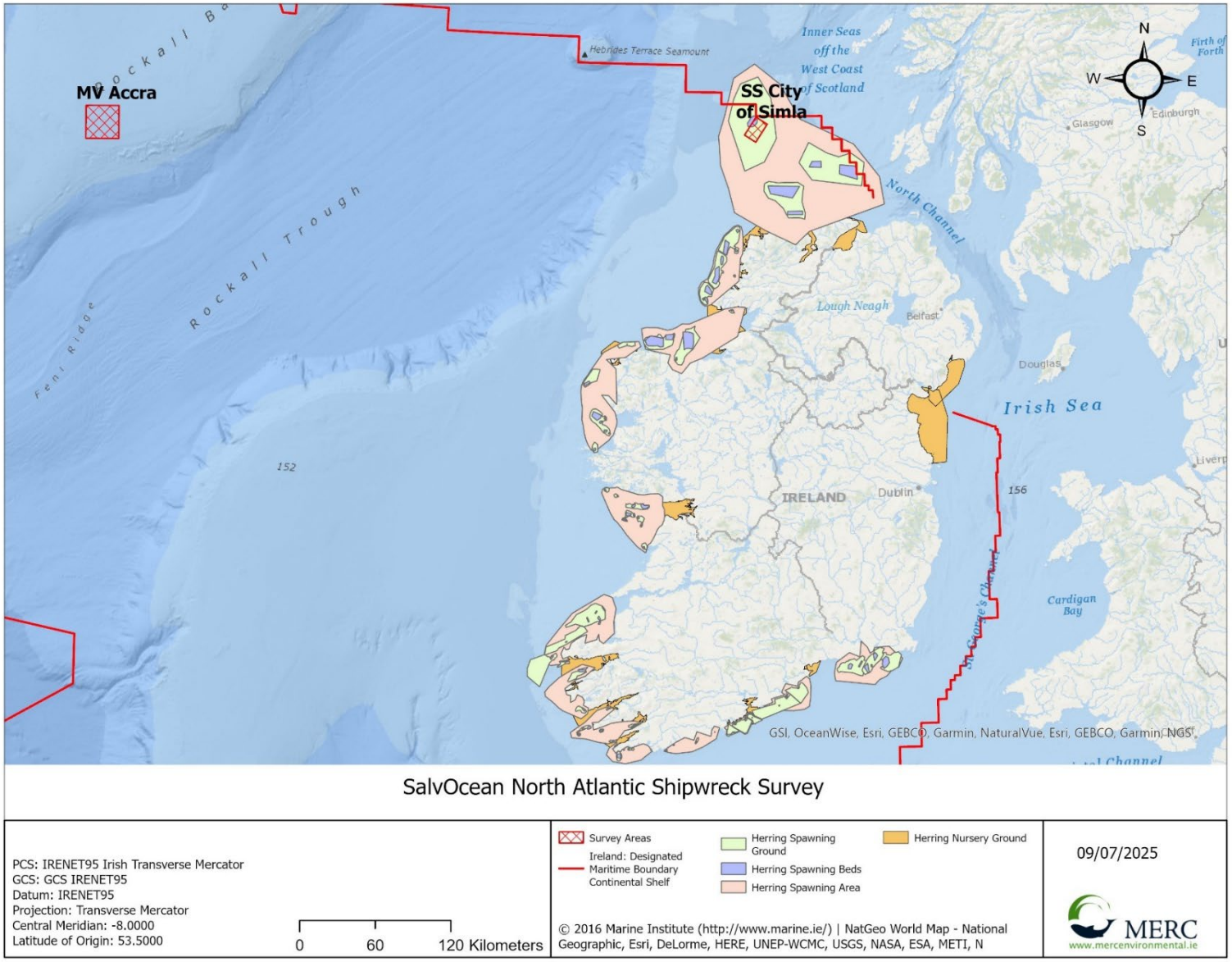

Figure 11. Herring Spawning areas and beds

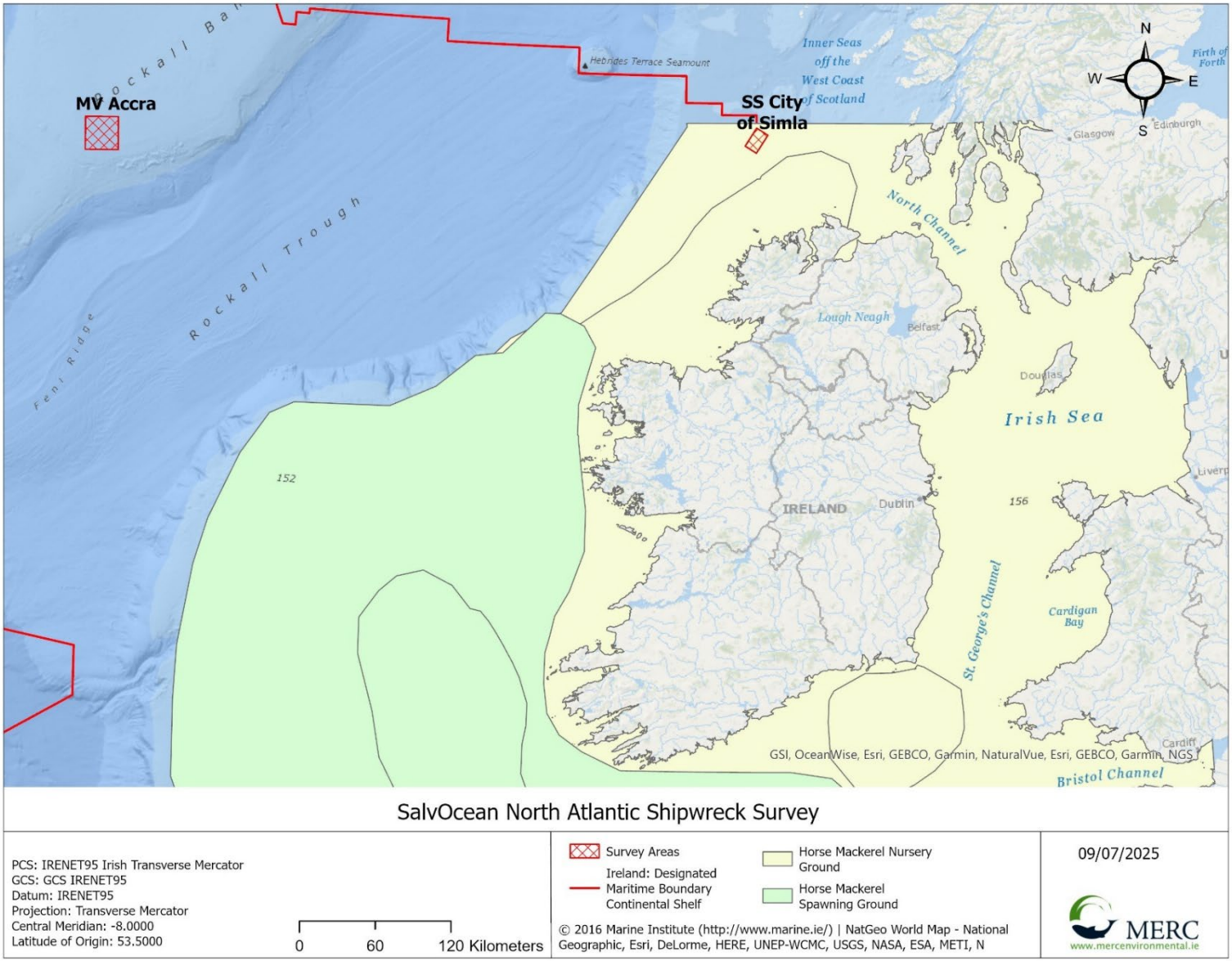

Figure 12. Horse Mackerel Spawning and Nursery ground

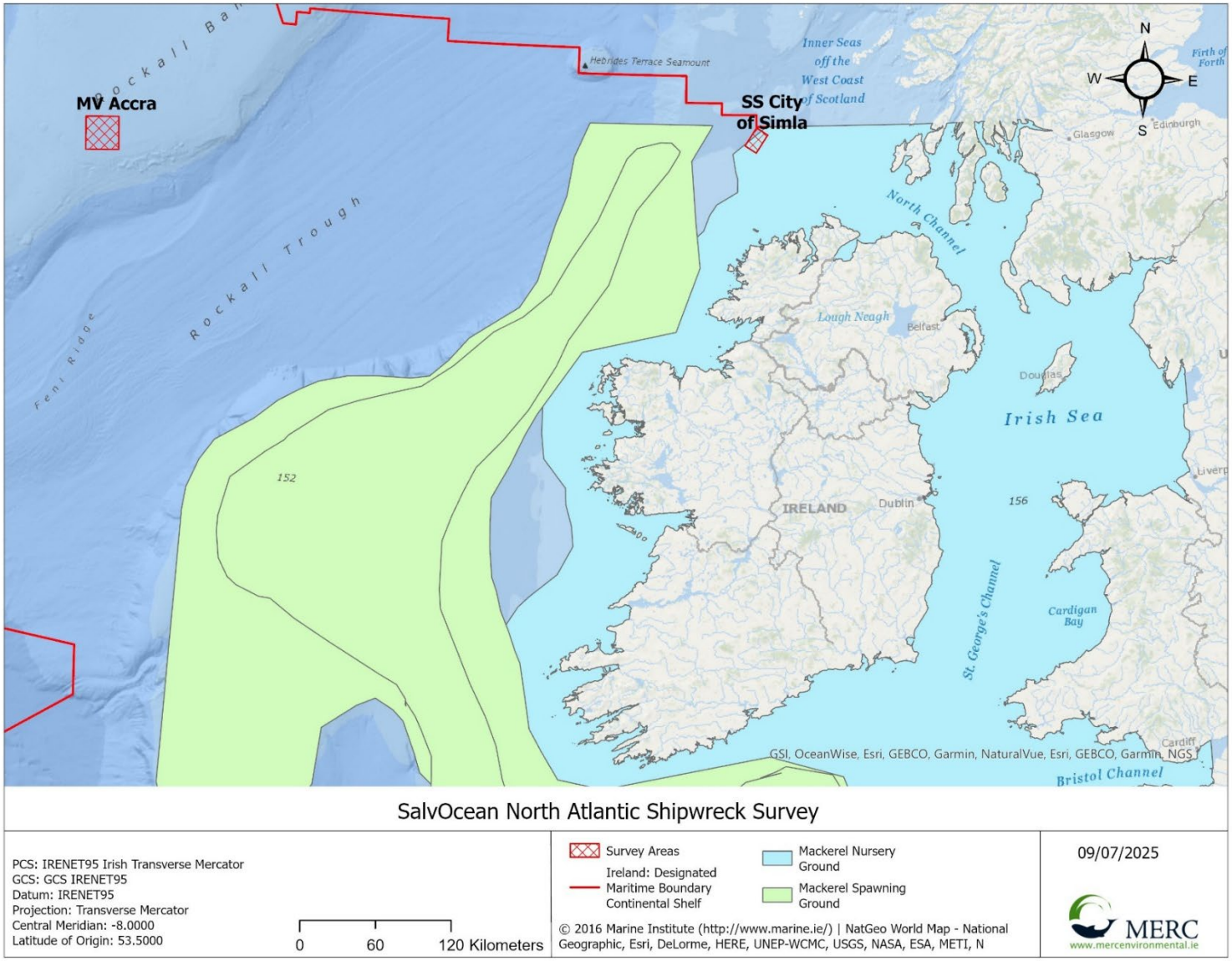

Figure 13. Mackerel Spawning and Nursery ground

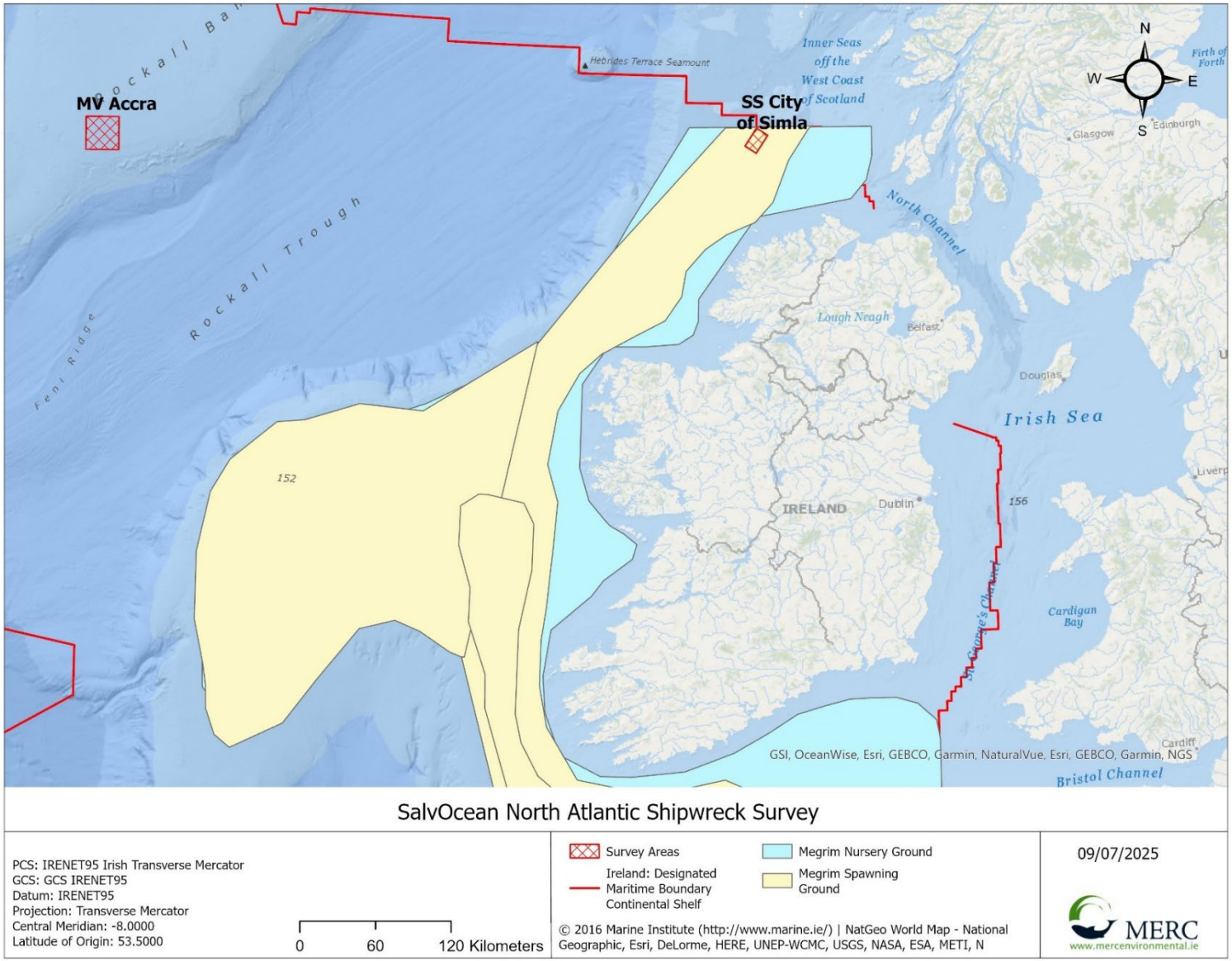

Figure 14. Megrim Spawning and Nursery ground

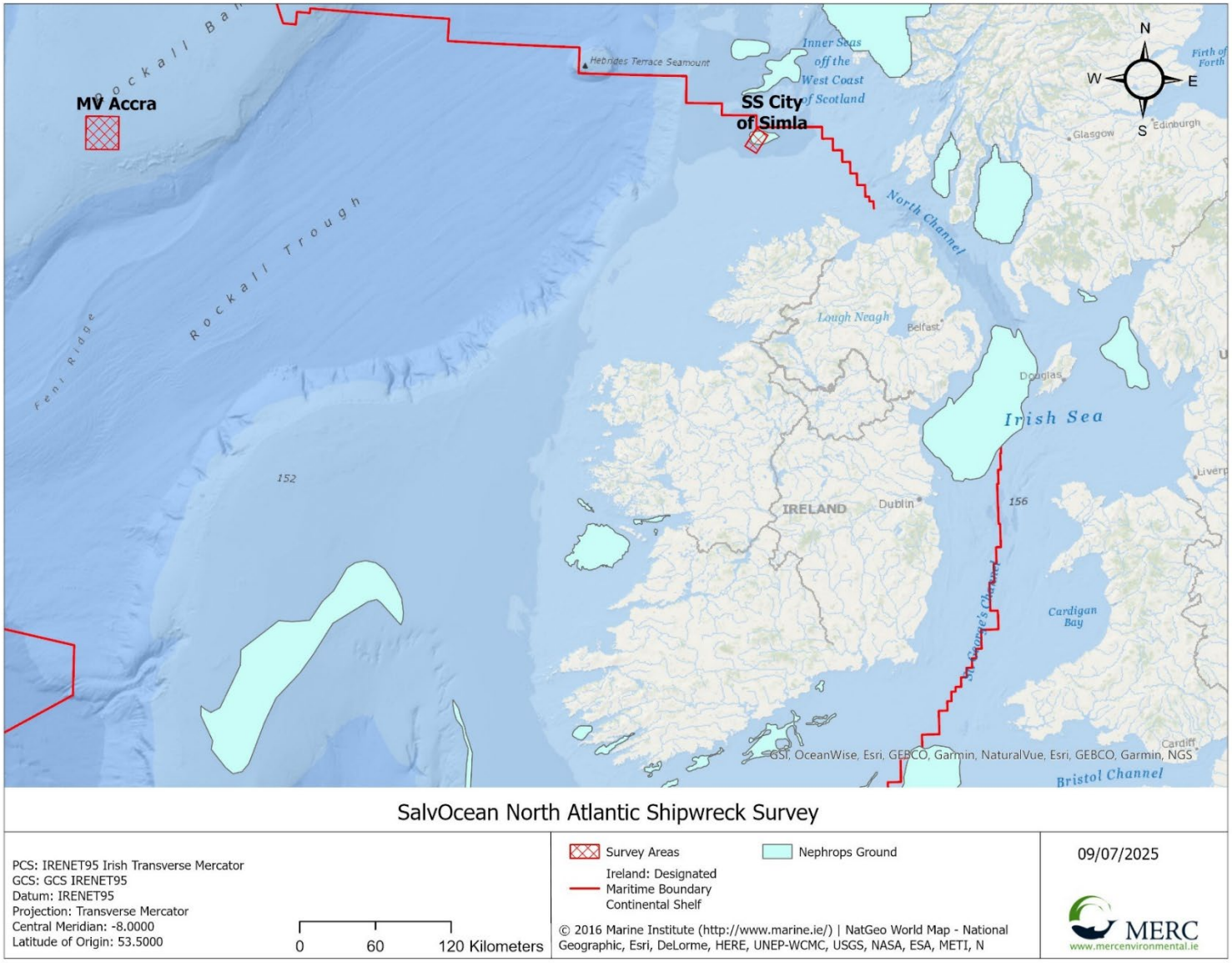

Figure 15. Nephrops ground

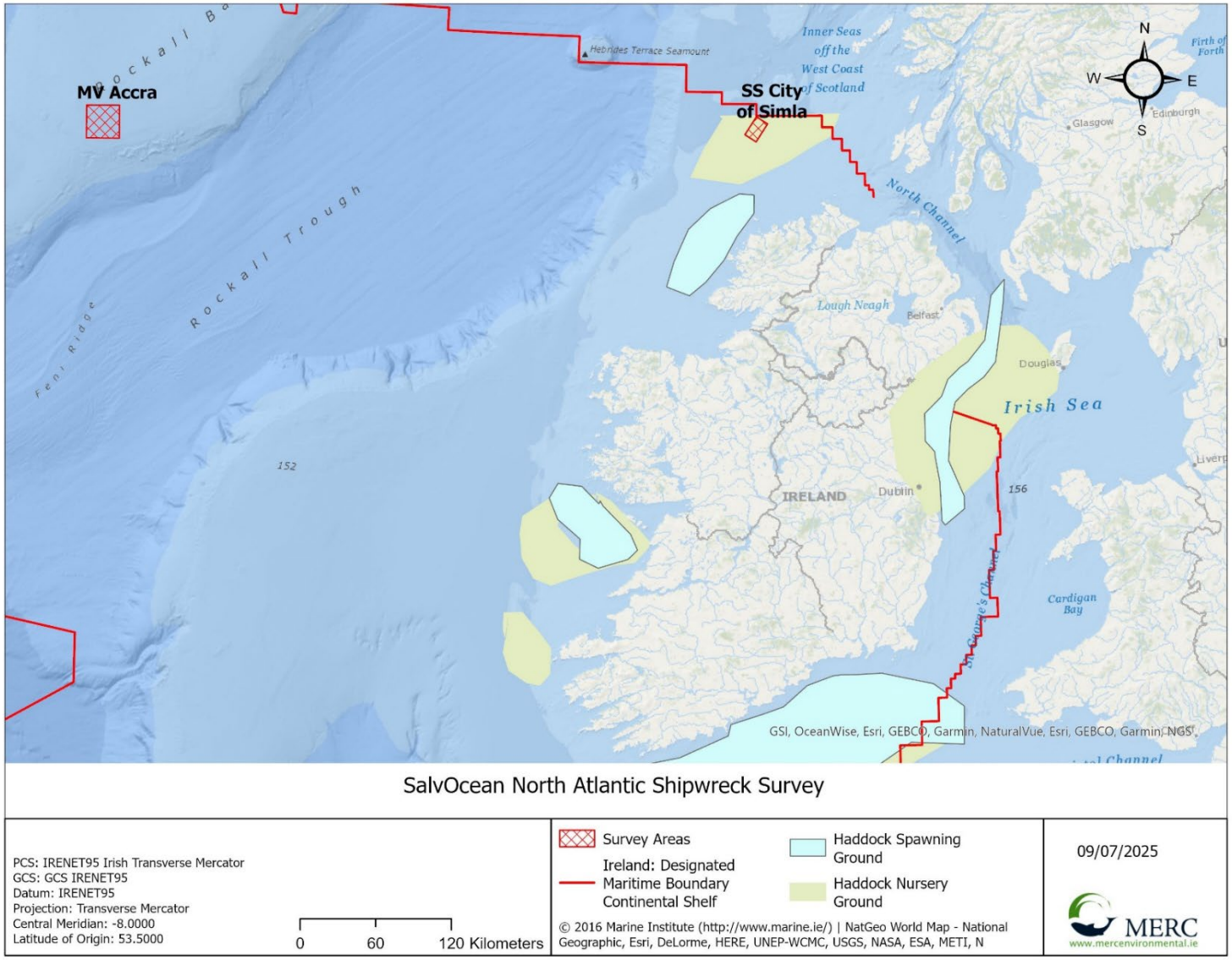

Figure 16. Haddock Spawning and Nursery ground

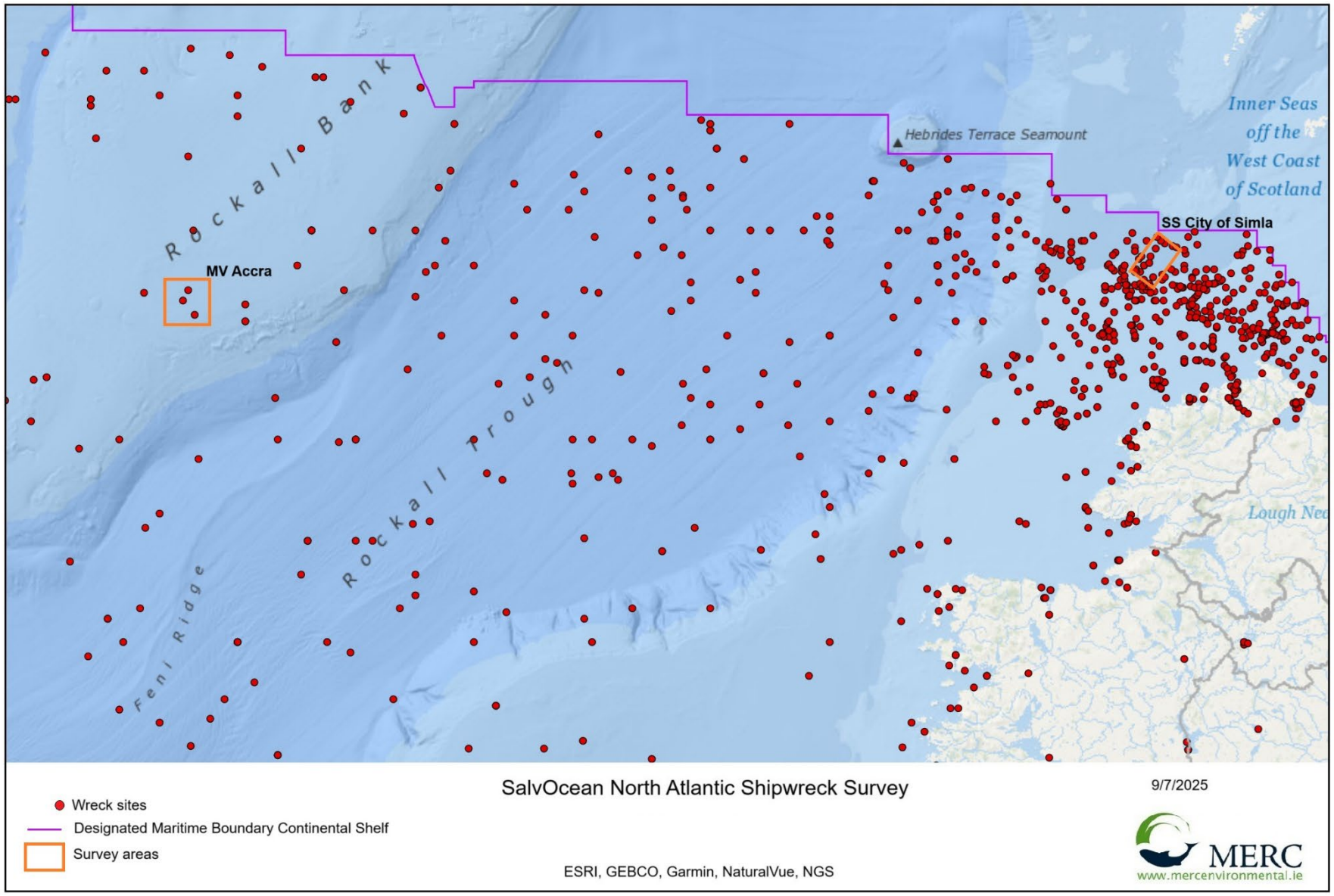

Figure 17. Locations of known wreck sites off northwest Ireland ©National Monuments Service Government of Ireland.

6. Water Framework Directive

The key objectives of the Water Framework Directive (WFD) are set out in Article 4 of the Directive. It requires Member States to use their River Basin Management Plans and Programmes of Measures to protect and, where necessary, restore water bodies in order to reach good status, and to prevent deterioration. Thereby ensuring good qualitative and quantitative health, i.e. on reducing and removing pollution and ensuring that there is enough water to support wildlife at the same time as human needs.

This AIMU report has assessed the implications of the project on the receiving environment. It concludes that, based on the scale and scope of the proposed project no impact on the any receiving waterbody will occur. This conclusion is based on the offshore nature of the project which is, at a minimum distance, 58km from the nearest designated coastal water body (Tory Island Waters) and the fact that the vessel proposed for the surveys is MARPOL compliant and therefore does not have the potential to cause a deterioration in water quality. No other project related activity has been identified that could lead to a deterioration in water quality.

7. Marine Strategy Framework Directive

The key objective of the Marine Strategy Framework Directive (MSFD) is to protect the marine ecosystem and biodiversity upon which our health and marine-related economic and social activities depend. Its aim is to achieve good environmental status (GES) of the EU's marine waters and sustainably protect the resource base upon which marine-related economic and social activities depend.

To help EU countries achieve a good environmental status (GES), the directive sets out 11 illustrative qualitative descriptors. To achieve this goal of GES, the MSFD has set out a programme of measures to address identified stressors to achieving GES. A total of 28 separate measures have been set out. These measures are mostly focused on reducing pressures by improving water quality and preventing environmental damage. Negative impacts stated in the MSFD include, for example, pollution, biodiversity loss, seabed damage, overexploitation, spread of non-indigenous species, marine litter, underwater noise, and ocean warming and acidification.

This AIMU report has assessed the implications of the project on the receiving environment (Table 6). It concludes that, based on the scale and scope of the proposed project, no impact on the marine environment in possible.

Table 6. MSFD Analysis

Descriptor	Analysis	Assessment
Descriptor 1: Biodiversity is maintained	Table 5 of this AIMU provides a description of the biodiversity baseline of the proposed project location and its environs. In addition a separate SISAA, NIS and Annex IV Risk Assessment were prepared for this project. All of which examined the potential for impact on various elements of the biodiversity of the proposed project area and potential for project related impacts on them. With the exception of potential impacts on selected marine mammals no potential for impact on biodiversity was recorded. Mitigation to ensure no impact on marine mammals occurred was proposed in this AIMU, the NIS (MERC, 2025b and the Annex IV Risk Assessment (MERC, 2025c).	Provided the mitigation outlined in table 3 of this AIMU is adhered to no potential for impact on this descriptor is considered possible.
Descriptor 2: Non-indigenous species do not adversely alter ecosystems	The survey vessel is MARPOL compliant and adheres to MARPOL regulations with respect to the introduction and spread of non-indigenous species. No other element of the proposed project has been identified that has the potential to introduce or spread. non-indigenous species.	No potential for impact.
Descriptor 3: Populations of commercial fish and shellfish species are healthy	Commercial fishing occurs within the proposed project area. This AIMU (Table 5) has considered impacts on commercial fisheries and has not identified any potential for impact.	No potential for impact.
Descriptor 4: Food webs ensure long-term abundance and reproduction of species	No project related impacts with the potential to impact food webs or affect long-term abundance and/or reproduction of species is considered possible.	No potential for impact.
Descriptor 5: Eutrophication is reduced	No impacts relative to eutrophication are possible.	No potential for impact.
Descriptor 6: Sea floor integrity ensures the proper functioning of ecosystems	No interaction with the seabed will occur at any point during the survey, no seabed sampling or physical interaction with the wreck sites is proposed. Therefore, the proposed project does not have the potential to lead to any impacts on the proper functioning of ecosystems.	No potential for impact.

Descriptor 7: Permanent alteration of hydrographical conditions does not adversely affect ecosystems	The proposed project does not have the potential to cause any hydrographical changes.	No potential for impact.
Descriptor 8: Concentrations of contaminants give no pollution effects	The proposed project does not have the potential to lead to the introduction of any contaminants. The vessel is compliant with MARPOL regulations in this regard.	No potential for impact.
Descriptor 9: Contaminants in seafood are at safe levels	The proposed project does not have the potential to add to or alter contaminants in the seafloor.	No potential for impact.
Descriptor 10: Marine litter does not cause harm	The proposed project does not have the potential to lead to the littering. The vessel is compliant with MARPOL regulations in this regard.	No potential for impact.
Descriptor 11: Introduction of energy (including underwater noise) does not adversely affect the ecosystem	A noise assessment was carried out for a similar suite of instruments being employed on a separate project off the south coast of Ireland (Thomsen *et al*, 2024). This assessment indicated that the proposed instruments had very limited capacity to lead to disturbance, harm or injury to marine mammals. However, with due consideration to the precautionary principle, mitigation to ensure no impact on marine mammals occurs, has been proposed in this AIMU, the project NIS and Annex IV Risk Assessment.	Provided the mitigation outlined in Table 5 of this AIMU is adhered to no potential for impact on this descriptor is considered possible.

8. National Marine Planning Framework (NMPF)

The proposed project is considered to have limited potential impact on the overarching marine planning policies of the NMPF. Nonetheless, a review of these policies relative to the proposed project has been carried out and is documented in Table 7 which indicates how the proposed project will be in compliance with the NMPF.

The NMPF sets out Overarching Marine Planning Policies (OMPPs) that will apply to all marine activities or development. These include policies in relation to, *inter alia*, co-existence with biodiversity, coastal and island communities, and infrastructure.

Table 7. Assessment of compliance with the National Marine Planning Framework (NMPF)

Environmental-Ocean Health	
Biodiversity & Protected Marine Sites	
Biodiversity	The project is supported by the following documents: • Supporting Information for Screening for Appropriate Assessment (SISAA) • Natura Impact Statement • Annex IV Risk Assessment • Assessment of Impact on Maritime Usage Report (AIMU) The conclusion of the SISAA was that the proposed project may give rise to significant effects on the conservation objectives of a number of European sites without mitigation. Accordingly, a Natura Impact Statement for the proposed project was prepared. The NIS recommended mitigation and concluded that provided the proposed mitigation was implement, no adverse effect on the integrity of any European site would occur. Similarly, the conclusion of the Annex IV Risk Assessment prepared for the proposed project and this AIMU is that, with mitigation, no impact on any marine mammal will occur. Furthermore, the scale and scope of the project is considered too small to lead to any adverse effects on either the local or wider marine environment.
Protected Marine Sites	As stated above, provided the mitigation recommended in the NIS is implemented, no adverse effects on any marine protected areas are considered possible.
Non-indigenous Species	The SISAA and AIMU did not identify any potential for the introduction of non-indigenous species.
Water Quality	The SISAA and AIMU did not identify potential for impacts on water quality.
Sea-floor and Water Column Integrity	The scale and scope of the project does not have the potential to impact Sea-floor and Water Column Integrity as documented in the AIMU.
Marine Litter	The scale and scope of the project does not have the potential to intentionally or accidentally contribute to the impacts on marine litter policy as documented in the AIMU.

Underwater Noise	Underwater noise was fully considered in the SISAA, NIS and Annex IV Risk Assessment. The Annex IV Risk Assessment concluded that the proposed project may lead to minor disturbance to marine mammals in the direct vicinity of the proposed project as a result of underwater noise. Accordingly mitigation was proposed. The NIS and AIMU concluded that, with mitigation, there was no potential for impact on any marine mammal as a result of underwater noise.
Air quality	Not relevant: The project does not have the potential to impact air quality.
Climate Change	The proposed project does not have the potential to negatively impact climate change or to assist in mitigating climate change.

Economic – Thriving Maritime Economy	
Co-existence	No potential for significant impact. The proposed works are temporary in nature (days). While disturbance to commercial fisheries activity may occur, this disturbance will be of a temporary nature (days) and will not have a significant impact on commercial fishery activity in the area. no other significant activities have been identified.
Infrastructure	No potential for impact on the infrastructure policy. No infrastructure is proposed.
Social – Engagement with the sea	
Access	No access issues have been identified.
Employment	Not applicable. It is considered the Employment Policy 1 is not relevant to the proposed project.
Heritage assets	A review of the Historic Environment Viewer and National monument service wreck viewer (Accessed July 2025) indicated the presence of numerous historic wreck sites within the area. However, the proposed project will have no contact with the seabed (acoustic surveys) or with either the wrecks that are the subject of this report or any additional wrecks sites. Therefore no potential for impact to heritage assets is possible.
Rural Coast and Island Communities	This policy is not considered relevant to the proposed project.
Seascape and Landscape	No impact possible. All survey instrumentation to be deployed in the subtidal.
Social Benefits	The proposed project in itself will not provide any social benefits. However by documenting the location and structure of the wreck site the project will contribute data on national heritage.
Transboundary	No transboundary effects are possible.

The Sectoral Marine Planning Policies for each individual marine sector or activity are detailed in the NMPF. No element of the proposed project is considered contrary to these policies.

8.1 Conclusion

A review of the application has been undertaken to conduct a non-intrusive acoustic and imaging survey which will include multibeam, sub bottom profiler, side scan sonar and photogrammetry surveys against the requirements of the National Marine Planning Framework (NMPF). The conclusion of which, is that the proposed project is fully compliant with the overall objectives and policies of the NMPF.

9. References

Biodiversity Data Centre (2025) Maps. Available at: https://maps.biodiversityireland.ie/Map. Accessed 09.07.2025.

Department of Housing, Local Government and Heritage. National monuments service; wreck viewer. Available at:
https://dahg.maps.arcgis.com/apps/webappviewer/index.html?id=89e50518e5f4437abfa6284ff39fd640
Accessed 10.07.2025.

Integrated Mapping for the Sustainable Development of Ireland's Marine Resource (INFOMAR) 2024. Bathymetry, backscatter, sediment samples and sediment classification layers. Available at:
https://www.infomar.ie/maps/interactive-maps/seabed-and-sediment
Accessed 01.07.2025

Marine Institute (2022). Ireland's Marine Atlas. Available at: https://atlas.marine.ie/#?c=52.2862:-6.4689:11. Accessed 8.07.2025

MERC (2025a). Supporting Information for Screening for Appropriate Assessment: North Atlantic Shipwreck survey.

MERC (2025b). Natura Impact Statement: North Atlantic Shipwreck survey.

MERC (2025c). EU Habitats Directive: Annex IV Risk Assessment: North Atlantic Shipwreck survey.

Irish Ramsar Wetlands Committee. Ramsar sites Ireland. Available at: http://irishwetlands.ie/irish-sites/ Accessed 9.07.2025.

NPWS Designations viewer (SACs, SPAs, NHAs and pNHAs):
Available at: https://experience.arcgis.com/experience/edf34d92e28040fd87d3d14f55d8d95f. Accessed 2.07.2025.

NPWS (2014). Guidance to Manage the Risk to Marine Mammals from Man-made Sound Sources in Irish Waters. Department of arts, Heritage and the Gaeltacht.

Thomsen, F., Ram, M., Chreptowicz, M., Nocoń, M., & Balicka, I. (2023) Noise modelling and environmental risk assessment of a geophysical survey and its impact on herring and minke whales in Irish coastal waters. Marine Institute, Galway. http://hdl.handle.net/10793/1872