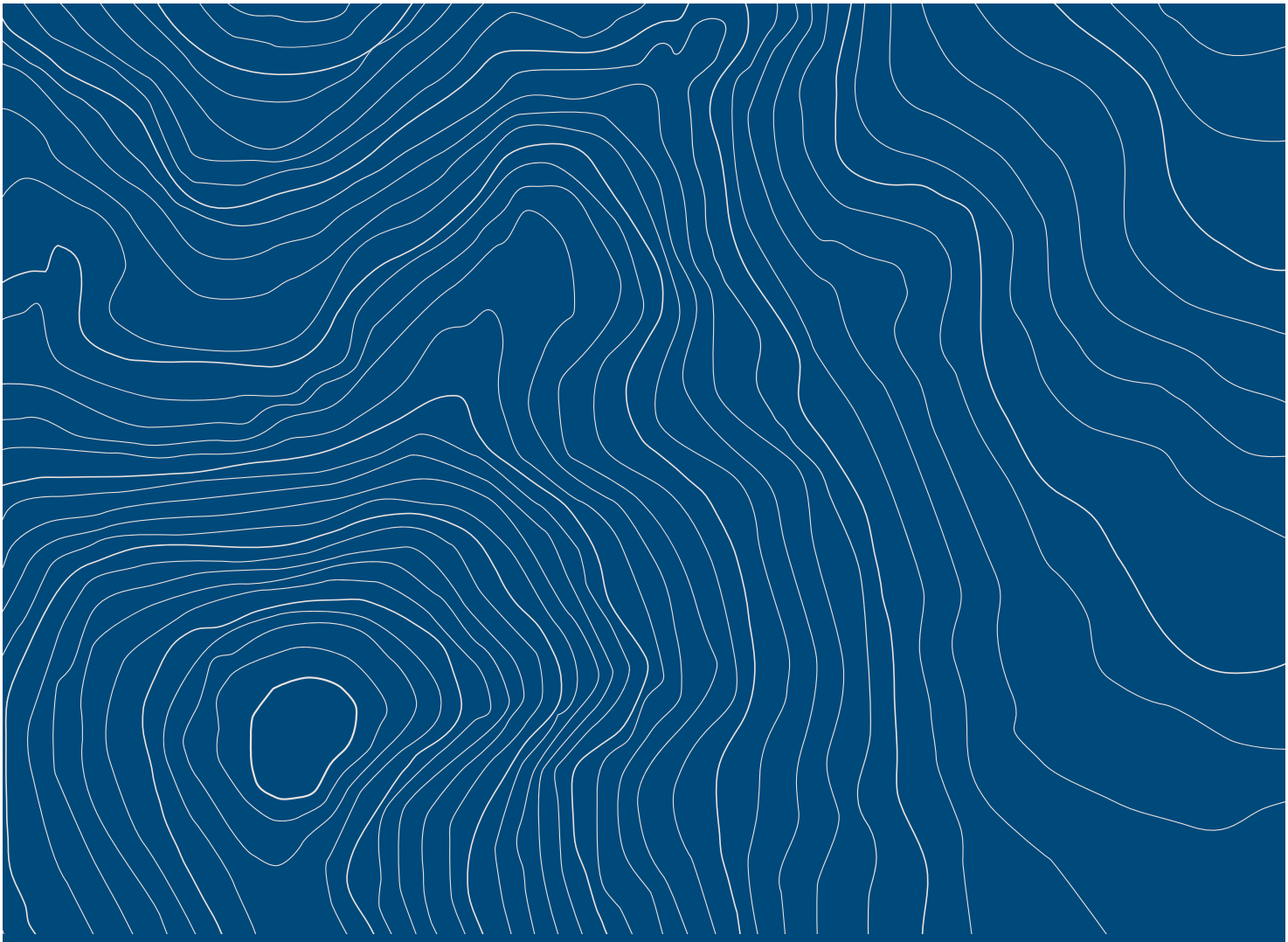

Dublin Array
Generation for generations

EIAR Volume 4: Offshore Infrastructure Technical Appendices Appendix 4.3.10-4 Dublin Array Offshore Wind Farm Marine Traffic Survey Report Winter 2022

Kish Offshore Wind Ltd

RWE SLR GoBe APEM Group

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Dublin Array Offshore Wind Farm
Marine Traffic Survey Report
Winter 2022

Prepared by	Anatec Limited
Presented to	RWE
Date	11 May 2022
Revision Number	01
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Revision Number	Date	Summary of Change
00	05 April 2022	Initial Draft
01	11 May 2022	Updates Following Client Feedback

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Abbreviations Table

Abbreviation	Definition
AIS	Automatic Identification System
ARPA	Automatic Radar Plotting Aid
ECC	Export Cable Corridor
IMO	International Maritime Organization
kt	Knot
LPG	Liquid Petroleum Gas
m	Metre
MCA	Maritime and Coastguard Agency
MGN	Marine Guidance Note
MMSI	Mobile Maritime Serve Identity
N	North
nm	Nautical Mile
NRA	Navigational Risk Assessment
OWF	Offshore Wind Farm
Radar	Radio Detection and Ranging
ROPAX	Roll-on/Roll-off Passenger
Ro-Ro	Roll-on/Roll-off Cargo
SOLAS	International Convention for the Safety of Life at Sea
UK	United Kingdom
UTC	Universal Time Coordinated
VHF	Very High Frequency
W	West
WGS 84	World Geodetic System 1984

1 Introduction

As part of the Navigational Risk Assessment (NRA) process for the proposed Dublin Array Offshore Wind Farm (OWF) (hereafter 'Dublin Array'), marine traffic survey data has been gathered for the area surrounding the development. It is noted that 28 days of marine traffic survey data has already been collected in total, with 14 days of data collected in November 2019, and 14 days collected in August and September 2021.

This report presents analysis of the 2022 shore-based survey which has been carried out from the Baily Lighthouse (at Howth), between the 2nd of March and the 16th of March. The marine traffic survey data has been recorded via Radio Detection and Ranging (Radar), Automatic Identification System (AIS), and visual observations by the on-site surveyors.

1.1 Background

Key regulator feedback to date on the Dublin Array is that the NRA should account for non AIS vessels, and have indicated consideration should be given to Maritime and Coastguard Agency (MCA) Marine Guidance Note (MGN) 654 (MCA, 2021) which sets outs assessment requirements for United Kingdom (UK) OWFs including in terms of marine traffic survey data. MGN 654 requires NRAs to be informed by a minimum of 28 days of marine traffic survey data from within 24 months prior to submission, including capture of non-AIS vessels. Although this survey would bring the total collected for Dublin Array up to 42 days, 14 of these days (the data collected in November 2019) are outwith the required 24-month MGN stipulation. The 14-day survey data collected in March 2022 will therefore bring the survey data within 24 months prior to the NRA submission to 28 days, and so be MGN 654 compliant.

2 Survey Methodology

A marine traffic survey of the area of Dublin Array (hereafter the 'array area') as well as its surrounding area, was carried out in order to collect 14 days of seasonal marine traffic data relevant to the proposed site.

The marine traffic survey began at approximately 11:00 Universal Time Coordinated (UTC) on the 2nd of March 2022 and concluded at 11:00 UTC on the 16th of March 2022, for a combined total of 14 days.

The primary objective of the survey was to identify and validate the routeing of vessels and level of vessel activity within a 10 nautical mile (nm) study area around Dublin Array (hereafter the 'study area'). This was achieved by recording in real time the positions of vessels within range of the AIS receiver and Automatic Radar Plotting Aid (ARPA), supplemented by observation of vessels within visual range to obtain information on type and size where information was not available from AIS.

2.1 Survey Location

The Radar and AIS were set up at co-ordinates 53° 21.687 North (N), 006° 03.140 West (W) (World Geodetic System 1984 (WGS 84)), approximately 4.9nm from the array area. The survey site was located directly on the coastline offering good line of sight of the survey area (i.e., the array area and surrounding waters).

Given the position of the survey site northwest of the array area, the southern and eastern extents of the study area may have observed reduced coverage based on proximity to the survey equipment. Therefore, to provide as comprehensive coverage of the study area as practicable, the AIS data recorded during the survey has been supplemented with additional data recorded from onshore receivers (data acquired by Anatec) located along the coastline, and over the same time period.

An overview of the survey location, array area, and study array are presented in Figure 2.1. A detailed overview of the array area is then presented in Figure 2.2.

It is noted that while the survey corridor has primarily been undertaken for the assessment of the array area, the offshore Export Cable Corridor (ECC) (within which the export cables will be laid) lies within the 10nm study area considered. This is shown in Figure 2.1 and Figure 2.2.

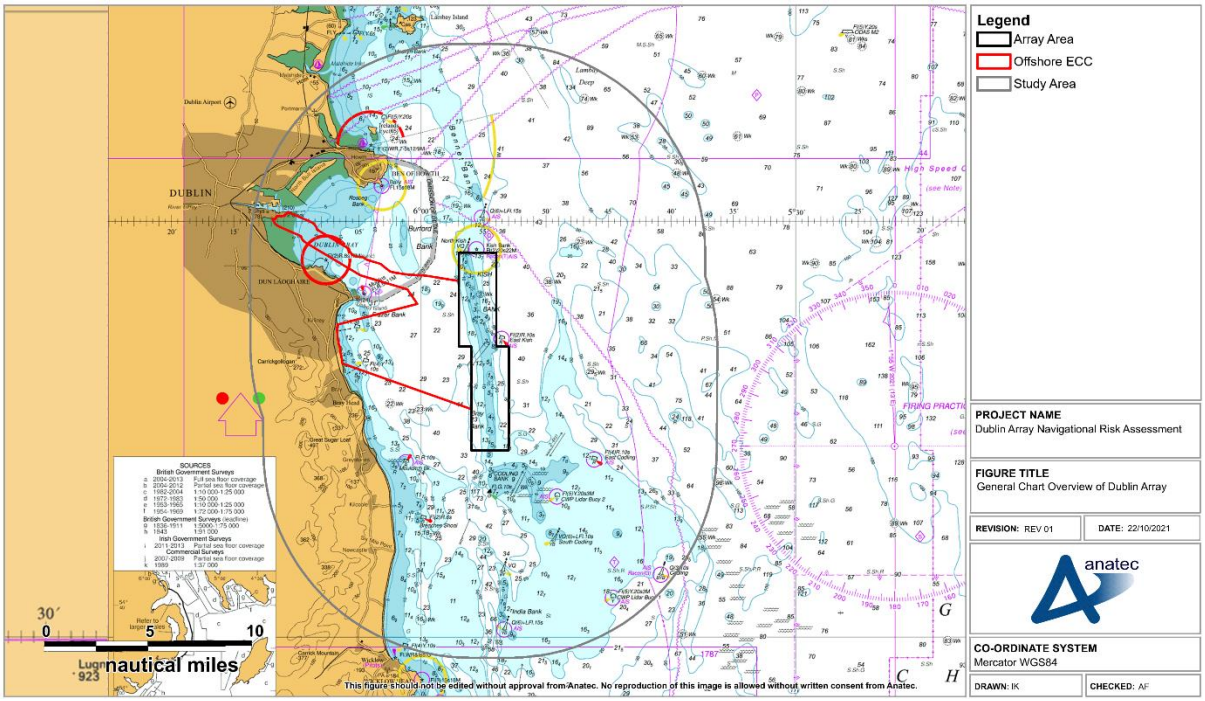

Figure 2.1: General Chart Overview of Dublin Array

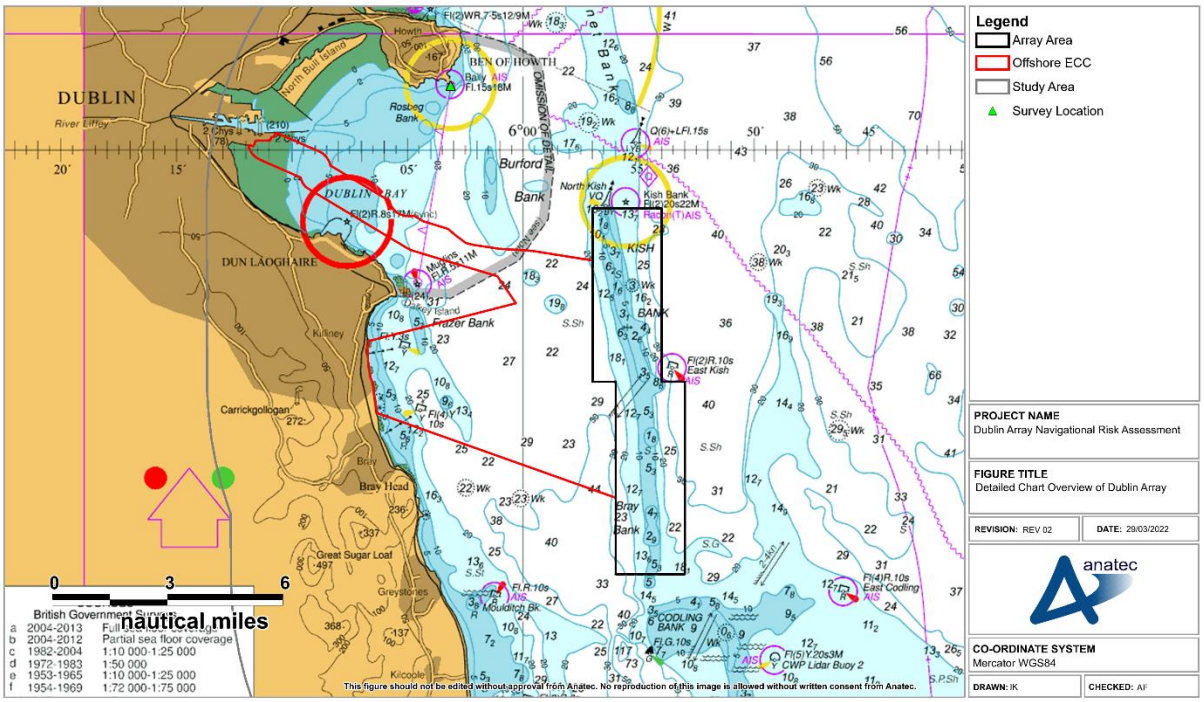

Figure 2.2: Detailed Chart Overview of Dublin Array

Reliable Radar coverage was observed to extend approximately 15nm south and east of the survey site, noting that vessels were able to be tracked further than this in certain cases and that maximum range varies with atmospheric and sea conditions. The approximate reliable

Radar coverage within the study area is presented in Figure 2.3, which a 15nm buffer of the survey location relative to the site.

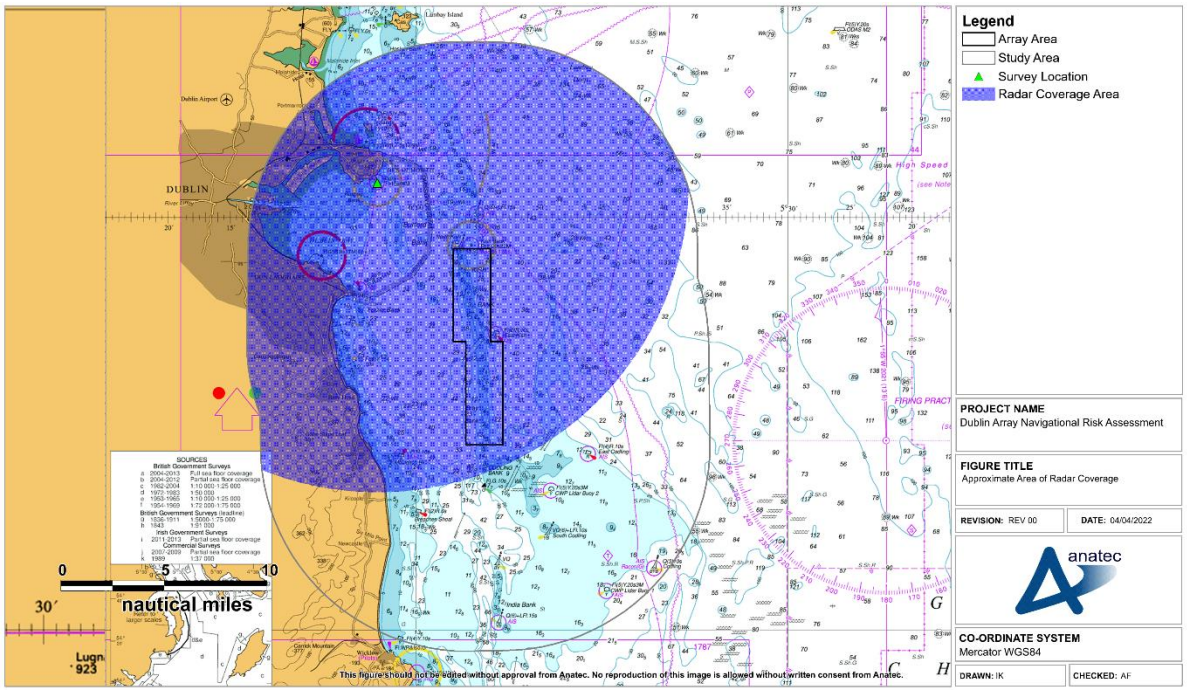

Figure 2.3: Approximate Area of Radar Coverage

2.2 Equipment and Manning

Table 2.1 lists the equipment used to carry out the traffic survey.

Table 2.1: Equipment Utilised in Traffic Survey

Equipment	Purpose
Furuno 2117 12 kilowatt (kW) Black Box Radar with 4ft Scanner and ARPA with integrated AIS	Tracking of targets (manually and automatically) typically up to 12nm from the survey location.
Furuno GP-32	Global Positioning System used to determine the position of the survey and to input the information to the Radar system.
Nautical Compass	Used to verify heading.
Monk Nautilus 7 x 50 Marine Binoculars & Nikon Spotting Scope (20-60x zoom)	Visual identification of vessels.

Equipment	Purpose
Digital Camera	Photographic evidence of targets (when possible).
AIS Receiver and Very High Frequency (VHF) Antenna	To receive and record data from vessels transmitting AIS data. Tracks vessels fitted with AIS (majority of vessels > 300 Gross Register Tonnage) within a range of typically 20nm.
Notebook Personal Computers	Connected to Radar and AIS receiver for real-time recording of tracked target data. Tracked targets displayed on hydrographic charts and can be replayed at high speed when required.
Logbook	Written log of all manual targets acquired during survey as well as other notes such as visual identification information, weather conditions, etc.

The AIS system tracked targets 24 hours per day during the survey period. The Radar was manned between 06:30 and 23:30 with targets not on AIS acquired manually. During this manned period a visual lookout was maintained, and all observations were recorded in the logbook. Between 23:30 and 06:30 Radar targets were acquired automatically by the Radar, over an area defined by the watch-keepers, which encompassed the study area. Where possible, radar data was matched to AIS in order to gather better data on each vessel. Any Visual observation logs were kept of any non AIS vessels unable to be acquired by radar (see Section 3.9).

2.3 AIS Description

Regulation 19 of the International Convention for the Safety of Life at Sea (SOLAS) Chapter V - Carriage requirements for vessel borne navigational systems and equipment - sets out navigational equipment to be carried on board vessels, according to vessel type. In 2000, the International Maritime Organization (IMO) adopted a new requirement (as part of a revised new chapter V) for vessels to carry AIS. AIS is a system by which vessels transmit data concerning their position, Mobile Maritime Service Identity (MMSI) etc., on two individual Very High Frequency (VHF) channels to the shore and other vessels, at very frequent intervals. The data is transmitted automatically via VHF to other vessels and coastal stations/authorities.

The regulation requires AIS to be fitted aboard all vessels of 300 gross tonnage and upwards, engaged on international voyages, cargo vessels of 500 gross tonnage and upwards, not

engaged on international voyages and passenger vessels irrespective of size, built on or after 1st July 2002. It also applies to vessels engaged on international voyages, constructed before 1st July 2002, according to the following timetable:

- Passenger vessels, not later than 1st July 2003;
- Tankers, not later than the first survey for safety equipment on or after 1st July 2003; and
- Vessels, other than passenger vessels and tankers, of 50,000 gross tonnage and upwards, not later than 1st July 2004.

An amendment adopted by the Diplomatic Conference on Maritime Security in December 2002 states that vessels, other than passenger vessels and tankers, of 300 gross tonnage and upwards but less than 50,000 gross tonnage, will be required to fit AIS no later than the first safety equipment survey after 1st July 2004, or by 31st December 2004, whichever occurs earlier. Vessels fitted with AIS shall maintain AIS in operation at all times, except where international agreements, rules or standards provide for the protection of navigational information.

The regulation requires that AIS shall:

- Provide information – including the vessel's identity, type, position, course, speed, navigational status and other safety-related information – automatically to appropriately equipped shore stations, other vessels and aircraft;
- Automatically receive such information from similarly fitted vessels; exchange data with shore-based facilities.

Fishing vessels of 15 metres (m) length and over are also required to carry Class A AIS.

Both dynamic and static information are transmitted via AIS. Examples of such information is presented in Table 2.2.

Table 2.2: Vessel Properties Transmitted via AIS

Static	Dynamic
▪ MMSI ▪ IMO Number ▪ Call Sign ▪ Name ▪ Length and Beam ▪ Type of Ship ▪ Type of Nav Sensor	▪ Position (Latitude/Longitude) ▪ Time ▪ Course over ground ▪ Speed over ground ▪ Heading ▪ Navigational Status ▪ Rate of Turn ▪ Draught ▪ Hazardous Cargo (type) ▪ Destination ▪ Estimated Time of Arrival ▪ Route Plan

2.4 Weather Data

Weather data was recorded in the survey logbook approximately every five to six hours, and is presented in Table 2.3.

Table 2.3: Weather Throughout Survey Period

Date	Time	Wind (Direction & Speed (Knots (kt)))	Sea State (Douglas Scale)	Visibility (nm)	Additional Comments
02/03/2022	12:00	SE at 6-7	<4m	<2	Visibility reducing 0.5nm occasionally
	15:00	SE at 7	<4m	<2	-
	19:00	SE at 20	1.8m	~10	Visibility cleared up towards the eve
03/03/2022	07:00	W at 8-10	Slight	~10	7/8 Cloud
	12:00	NW at 10	Slight	~10	7/8 Cloud. Fair
	18:00	NE at 5	Slight	~10	Fair
	23:00	W at 13	Slight	~10	-
04/03/2022	07:00	W-NNW at 12	Slight	>10	2/8 Cloud. Fair

Date	Time	Wind (Direction & Speed (Knots (kt)))	Sea State (Douglas Scale)	Visibility (nm)	Additional Comments
	12:00	W-NW at 12	Slight	>10	2/8 Cloud. Fair
	18:00	N at 12	Slight	>10	Fair
	23:00	NW at 11	Slight	>10	Fair
05/03/2022	07:00	WNW at 10	Slight	>10	3/8 Cloud. Fair
	12:00	N-NE at 10-15	Slight-Moderate	>10	3/8 Cloud. Fair
	18:00	NE at 13	Moderate	>10	-
	23:00	NE at 10	Moderate	>10	-
06/03/2022	07:00	ENE at 10-15	Slight	>10	4/8 Cloud. Fair
	12:00	E at 10-15	Slight	>10	2/8 Cloud Fair
07/02/2022	08:00	SSE at 10-15	Slight	~10	7/8 Cloud. Fair
	12:00	SSE at 15-20	Slight-Moderate	~10	Overcast. Fair
	18:00	SE at 20	Moderate	~10	Wind beginning to pick up
	23:00	SE at 25	Strong Breeze	~10	Quite rough
08/03/2022	07:00	SE at 25-30	Moderate-Rough	2-5 (<2 in rain)	Overcast rain, squally showers
	12:00	ESE at 30	Rough	2-5 (<2 in rain)	Overcast rain, squally showers
	18:00	S at 16	Rough	<5	Foggy - rain
	23:00	SE at 15	Rough	<10	
09/03/2022	07:00	S at 35	Rough	<5 (poor in rain)	Overcast rain, squally showers
	12:00	S at 25-30	Rough	Poor	Rain

Date	Time	Wind (Direction & Speed (Knots (kt)))	Sea State (Douglas Scale)	Visibility (nm)	Additional Comments
	13:00	SW-W at 20	Rough	Poor	Wind veering. Rain
	18:00	NW at 17	Moderate	Poor	-
	23:00	NW at 10	Calm	Poor	-
10/03/2022	07:00	W at 10	Smooth-Slight	>5 (Good)	-
	09:00	W at 10-15	Smooth-Slight	>10	Cloud broken 6/8
	12:00	S-SW at 10-15	Slight	>10	2/8 Cloud. Fair
	14:00	SE at 10-15	Slight	>10	Fair
	18:00	S at 24	Moderate	>15	Wind picking up
	20:00	S at 25	Rough	>15	Fairly strong wind
	23:00	S at 24	Rough	>10	-
11/03/2022	07:00	SW at 10-15	Smooth-Slight	>10	Cloudy rain
	08:00	SE at 20	Moderate	2-5	Rain
	12:00	SE at 20-25	Moderate	3	Rain showers. Cloudy
	15:00	S at 14	Moderate	10	-
	18:00	W at 13	Slight	10	-
	23:00	S at 5	Smooth	10	-
12/03/2022	07:00	SW at 10-15	Smooth-Slight	>10	6/8 Cloud. Visibility poor in rain showers
	12:00	SW at 15	Slight	10	Poor visibility in rain, sunny spells
	18:00	SE at 23	Rough	10	-

Date	Time	Wind (Direction & Speed (Knots (kt)))	Sea State (Douglas Scale)	Visibility (nm)	Additional Comments
	23:00	SE at 10 (with gusts of up to 34)	Rough	10	-
13/03/2022	07:00	SE at 35	Rough	2-5	Poor visibility in rain
	12:00	S at 15-20	Moderate in Dublin Bay – Rough offshore	2-5	Cloud increasing, wind freshening
	18:00	W at 17	Slight	>10	-
14/03/2022	07:00	W-SW at 15-20	Slight in Dublin Bay – Moderate offshore	10	Fair 4/8 cloud / rain showers
	12:00	W at 20	Slight in Dublin Bay – Moderate offshore	5-10	Fair 6/8 cloud / rain showers
15/03/2022	18:00	W at 14	Slight	5-10	-
	23:00	W at 10	Slight	10	-
	07:00	W at 10-15	Slight	10	Fair. Overcast
	12:00	SW at 10	Slight	8-10	Overcast
	18:00	W at 14	Slight	5	Fog
	23:00	S at 13	Slight	10	-
16/03/2022	07:00	NNW at 10	Smooth	~10	Overcast, light rain

3 Survey Results

This section presents the vessel tracks recorded on AIS and Radar within 10nm of the array area during the 14-day survey period.

Temporary traffic, including survey vessels recorded within the study area, were removed from the analysis. Furthermore, to ensure vessels moored at local harbours did not skew the analysis, tracks observed to remain entirely within Dublin Harbour and the Dun Laoghaire Marina have also been excluded. In any instance of a vessel being recorded via both AIS and Radar, the track providing the most complete coverage has been utilised. All vessel data recorded, colour-coded by recording course (i.e., AIS, Radar, or visual observation) is presented in Figure 3.1.

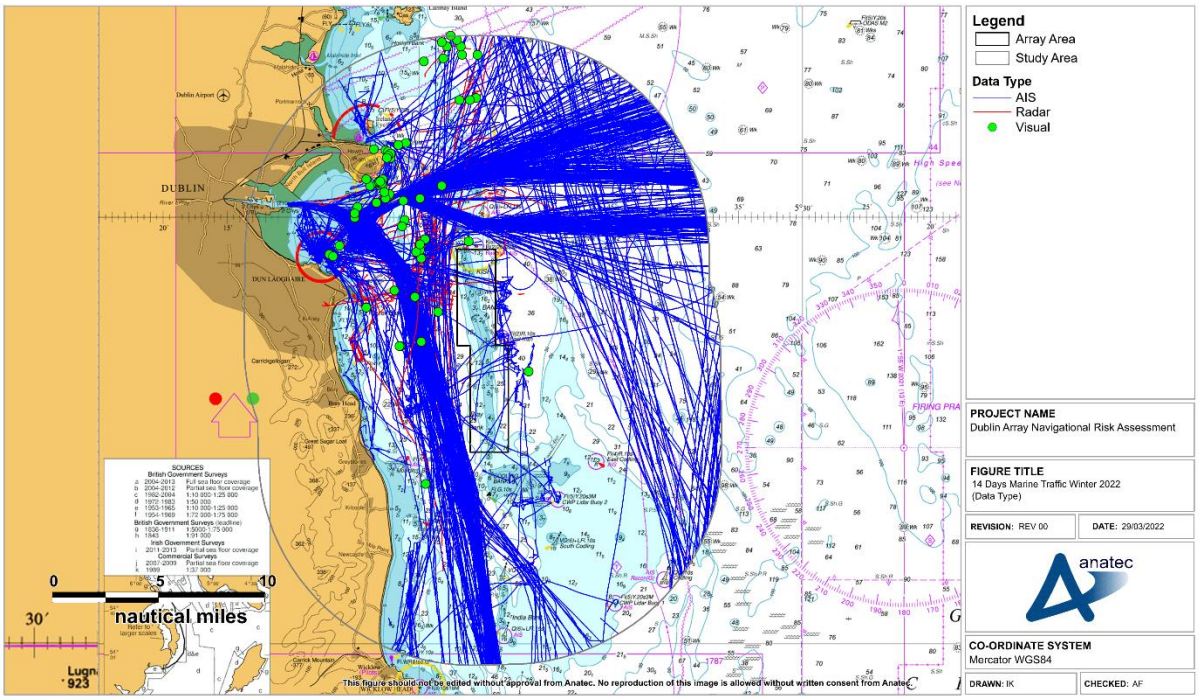

Figure 3.1: 14 Days Marine Traffic 2022 by Data Type

Vessels shown in Figure 3.1 detailed as being recorded via 'visual observation' were any non-AIS vessels unable to be manually acquired via Radar. Further details of these vessels are available in Section 3.9.

3.1 Vessel Types

An overview of the data recorded within the study area during the survey period, colour-coded by vessel type, is presented in Figure 3.2. All AIS tracks were able to be assigned a type category. It is noted that where a vessel was recorded solely via Radar, type information could only be ascertained where the vessel was able to be visually identified at the time of recording. Such tracks which could not be assigned a type category comprised 26% of the total data.

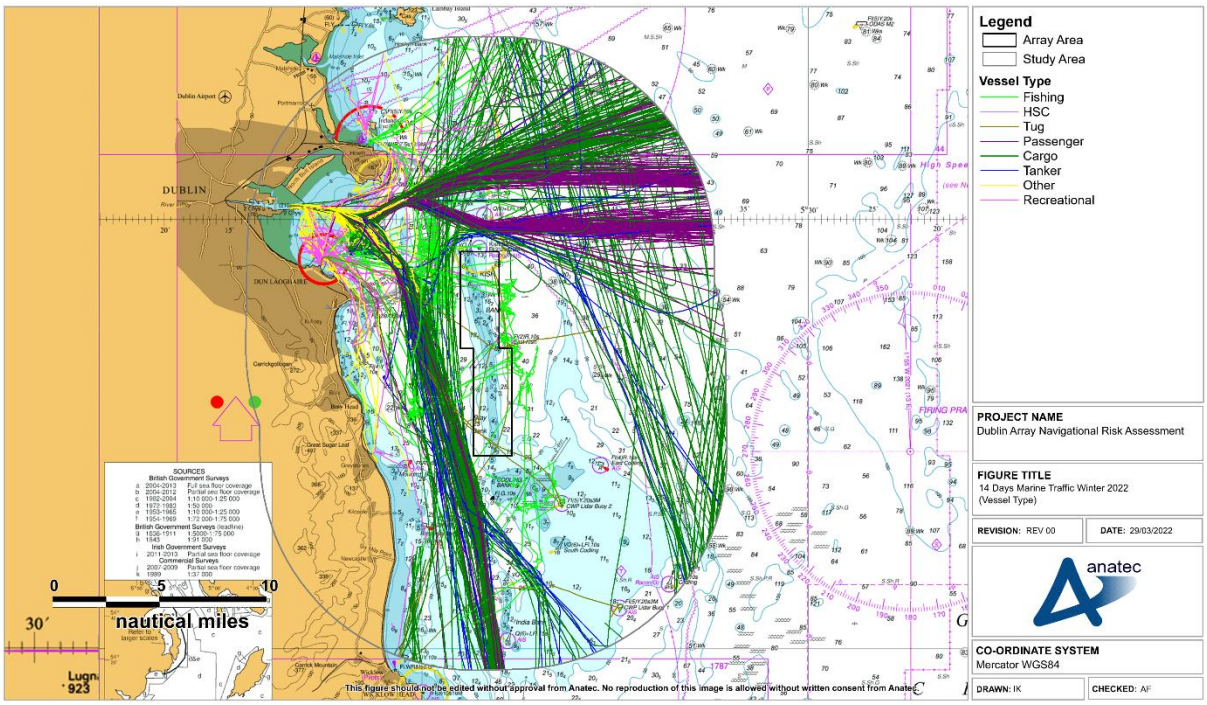

Figure 3.2: 14 Days Marine Traffic 2022 by Vessel Type

The distribution of vessel types recorded within the study area during the survey period is presented in Figure 3.3.

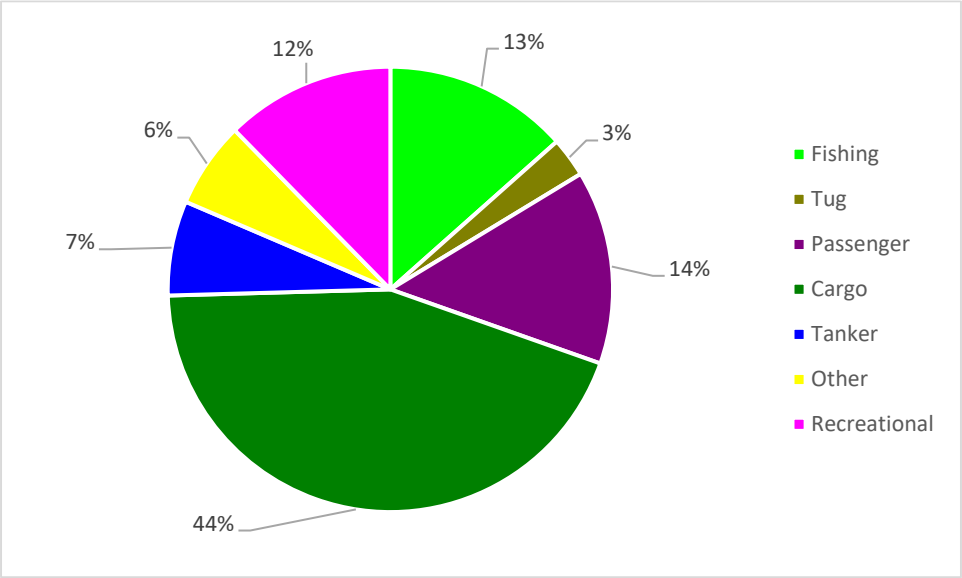

Figure 3.3: Distribution of Vessel Types

The most common vessel types recorded within the study area during the survey period were cargo vessels (44%), passenger vessels (14%), fishing vessels (13%), and recreational vessels (12%). No other vessel type accounted for more than 10% of the total.

3.2 Anchored Vessels

The vessels identified as being at anchor within the study area during the survey period, based on speed assessment and information transmitted via AIS, are presented in Figure 3.4. Following this, the anchored vessel tracks are presented in higher clarity in Figure 3.5.

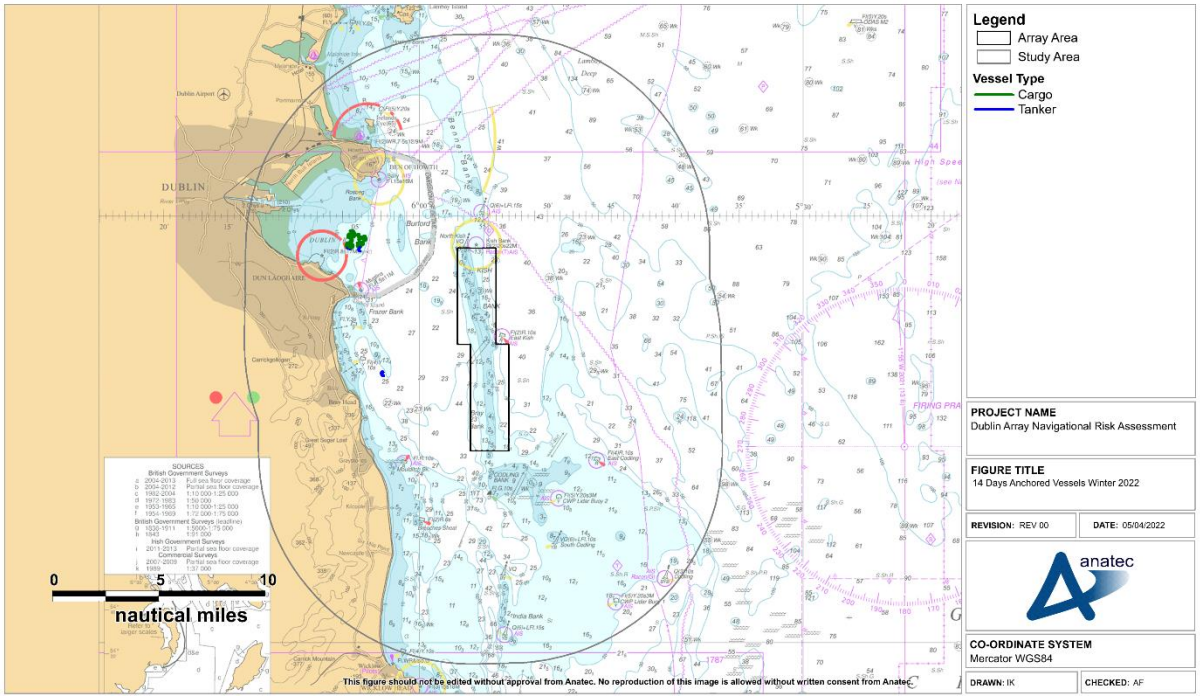

Figure 3.4: 14 Days Anchored Vessels Winter 2022

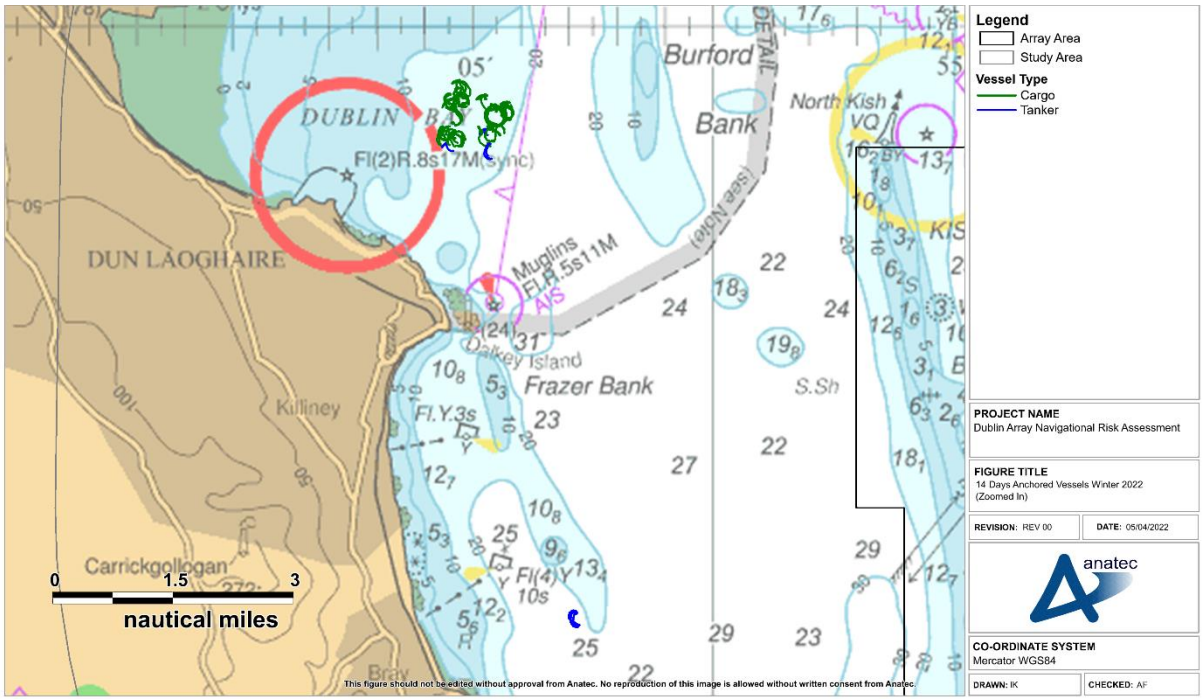

Figure 3.5: 14 Days Anchored Vessels Winter 2022 (Zoomed In)

Vessels primarily anchored at the designated anchorage in Dublin Bay, however one case of a vessel at anchor further to the south was also recorded. This aligns with consultation undertaken with Dublin Port as part of the NRA process, where it was raised that due to the anchorage often being at capacity, vessels have also started to anchor coastally further to the south.

There were 50 unique instances of vessels anchoring within the study area during the survey period. These were solely comprised of commercial vessels, with cargo vessels accounting for 84%, and tankers accounting for 16%.

3.3 Vessel Count

The number of unique vessels per day recorded in the study area during the survey period is presented in Figure 3.6. It is noted that as the survey began at 11:00 on the 2nd of March 2022 and completed at 11:00 on the 16th of March 2022, data for these days is not representative of a complete day.

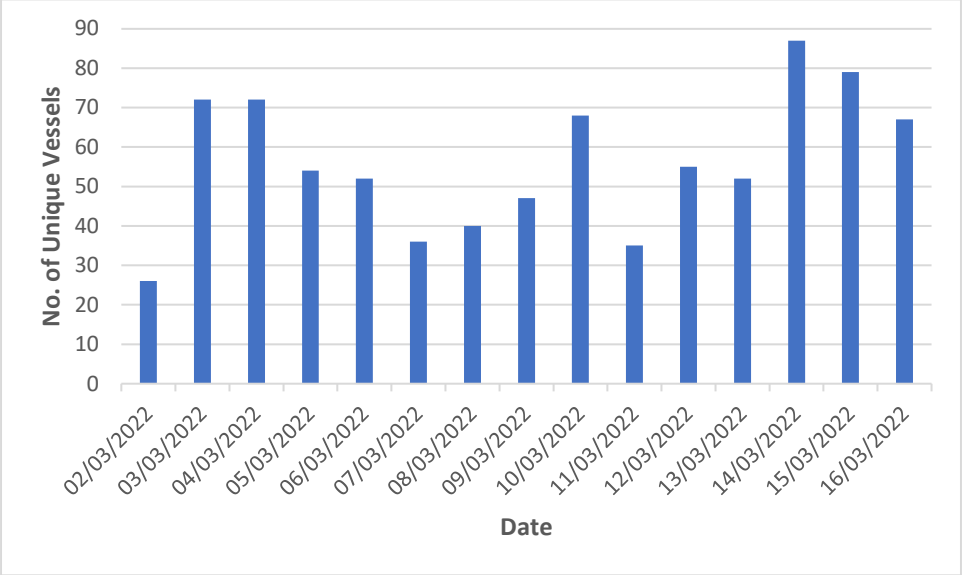

Figure 3.6: Counts of Unique Vessel per Day

On average, 60 unique vessels per day were recorded within the study area during the survey period. The busiest day was the 14th of March 2022, on which 87 unique vessels were recorded. The quietist full day was the 11th of March 2022, on which 35 unique vessels were recorded.

3.4 Vessel Sizes

3.4.1 Vessel Length

The vessels recorded within the study area during the survey period, colour-coded by vessel length, are presented in Figure 3.7. It is noted that vessel length was unspecified for 34% of these vessels, the majority of which (93%) were recorded via Radar.

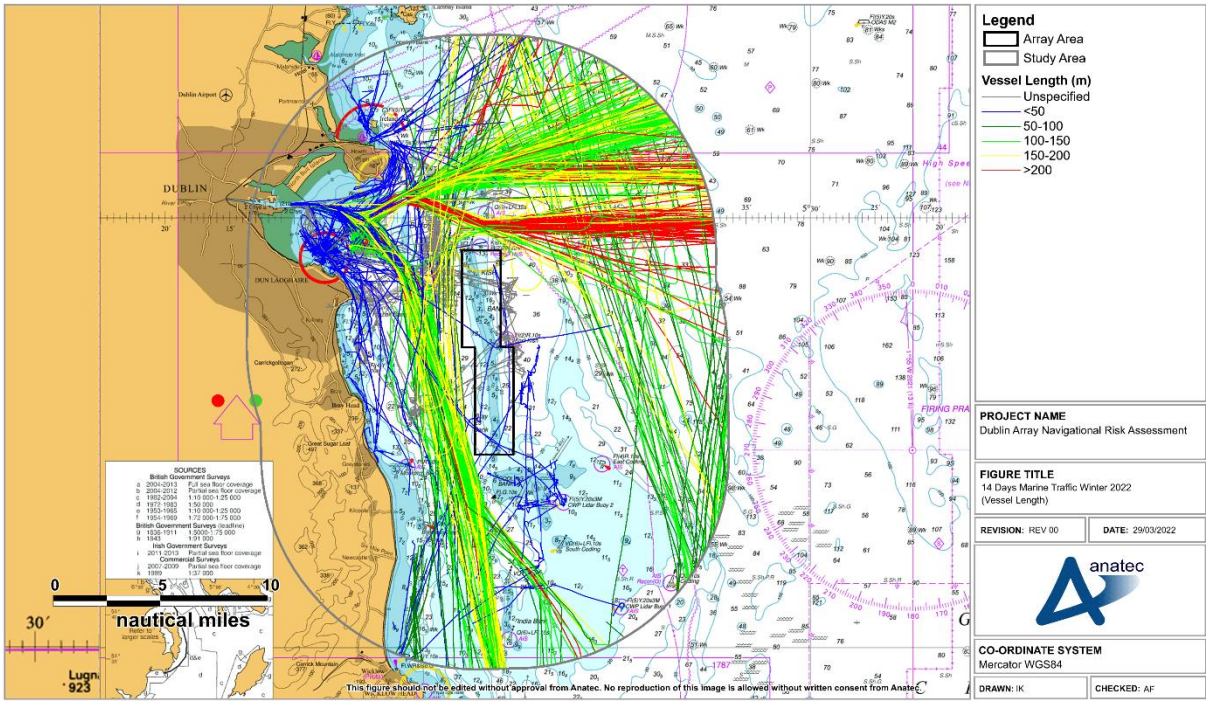

Figure 3.7: 14 Days Marine Traffic 2022 by Vessel Length

Vessels inshore were typically smaller vessels (<50m) and were comprised of fishing vessels and recreational vessels. The majority of vessels of unknown length were fishing vessels (71%). Larger commercial vessels (passenger, cargo, and tanker) were recorded more frequently on route to/from Dublin to the east/west.

The distribution of these vessel lengths, excluding those that are unspecified, is presented in Figure 3.8.

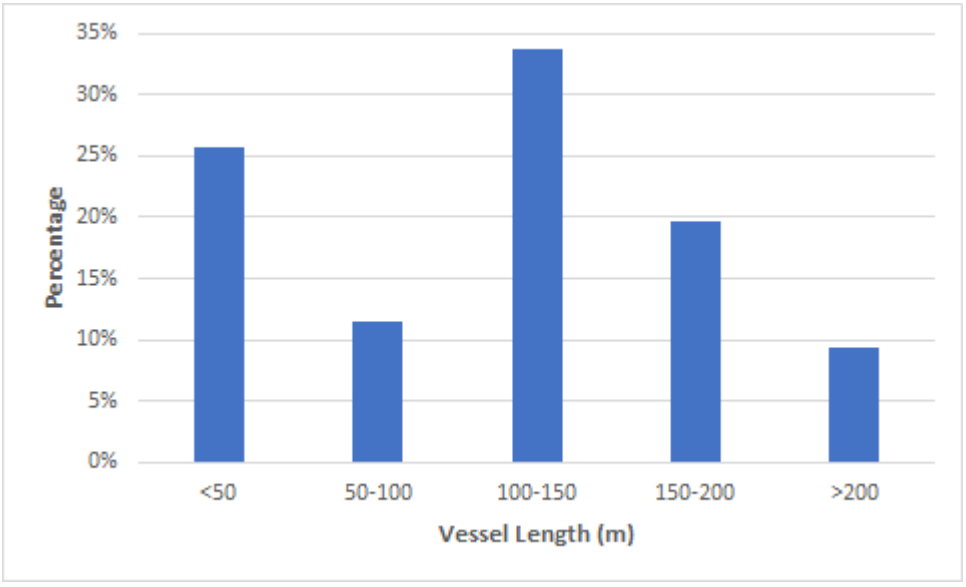

Figure 3.8: Distribution of Vessel Lengths

Excluding vessels of unspecified length, the average vessel length within the study area during the survey period was 114m. The vessel of greatest length transiting the study area during the survey period was a Roll-on/Roll-off cargo (Ro-Ro) vessel of 234m length, recorded entering Dublin from the south and leaving to an unspecified destination on two occasions (the 6th and 14th of March 2022).

3.4.2 Vessel Draught

Based on information available from AIS, an overview of vessel tracks within the study area during the survey period is presented in Figure 3.9. It is noted that vessel draught was unspecified for 41% of these vessels.

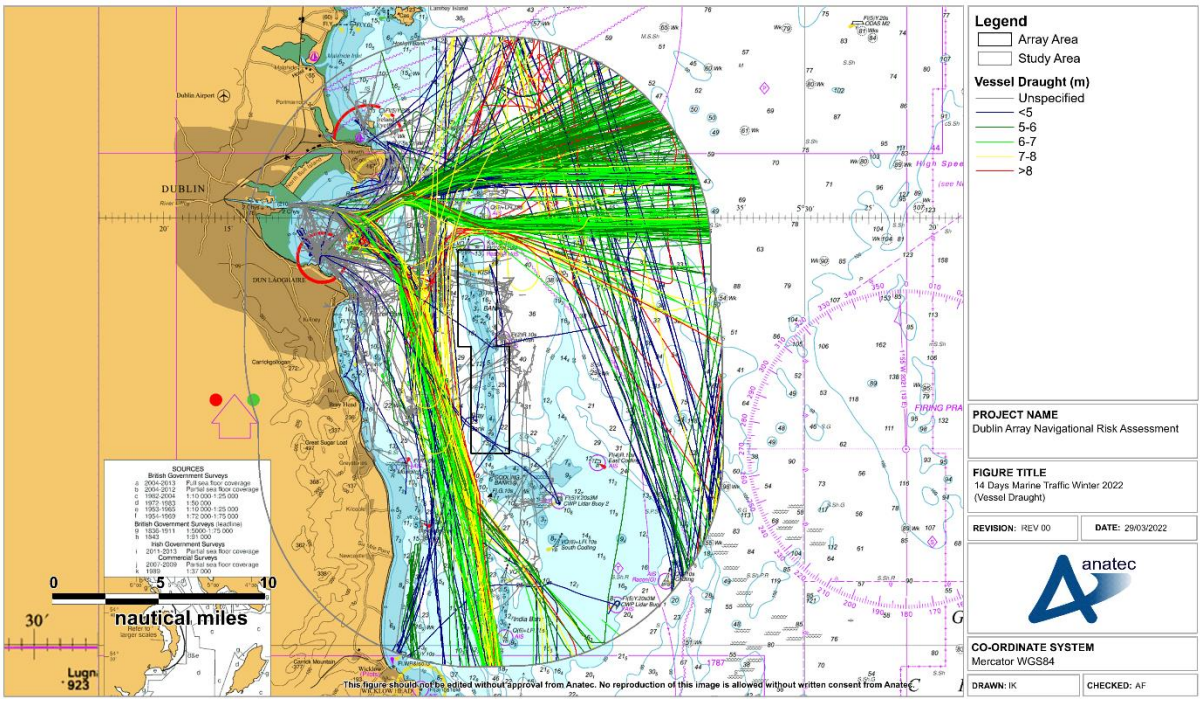

Figure 3.9: 14 Days Marine Traffic 2022 by Vessel Draught

The majority of vessels of unspecified draught were either recreational vessels (38%) or fishing vessels (33%) operating close to the coast.

The distribution of vessel draughts, excluding those that were unspecified, is presented in Figure 3.10.

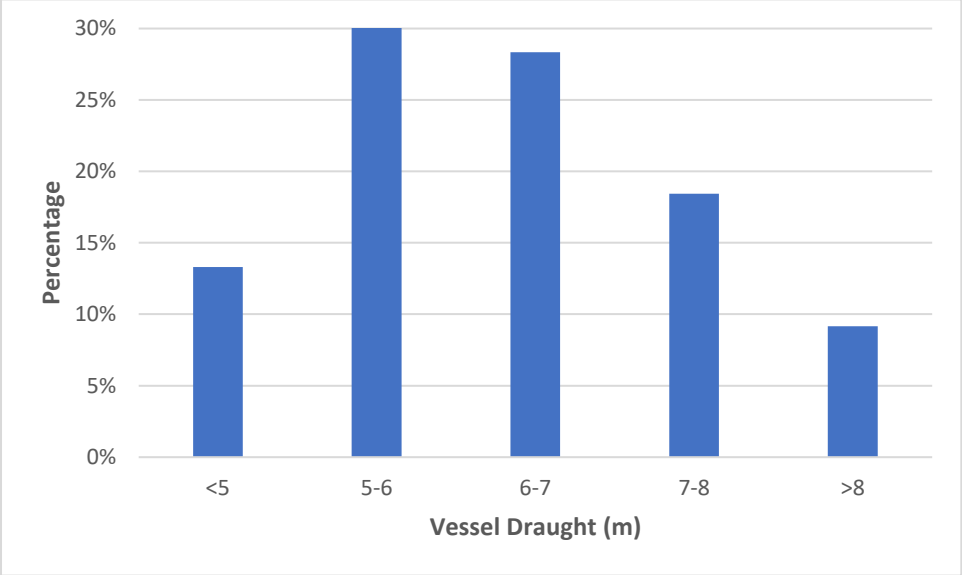

Figure 3.10: Distribution of Vessel Draughts

Excluding vessels of unspecified draught, the average vessel draught within the study area during the survey period was 6.1m. The vessel of greatest draught transiting the study area during the survey period was an oil/chemical tanker with draught of 9.3m present on the 7th of March 2022 entering Dublin from the south.

3.5 Vessel Course

An overview of vessel tracks within the study area, colour-coded by average course, is presented in Figure 3.11.

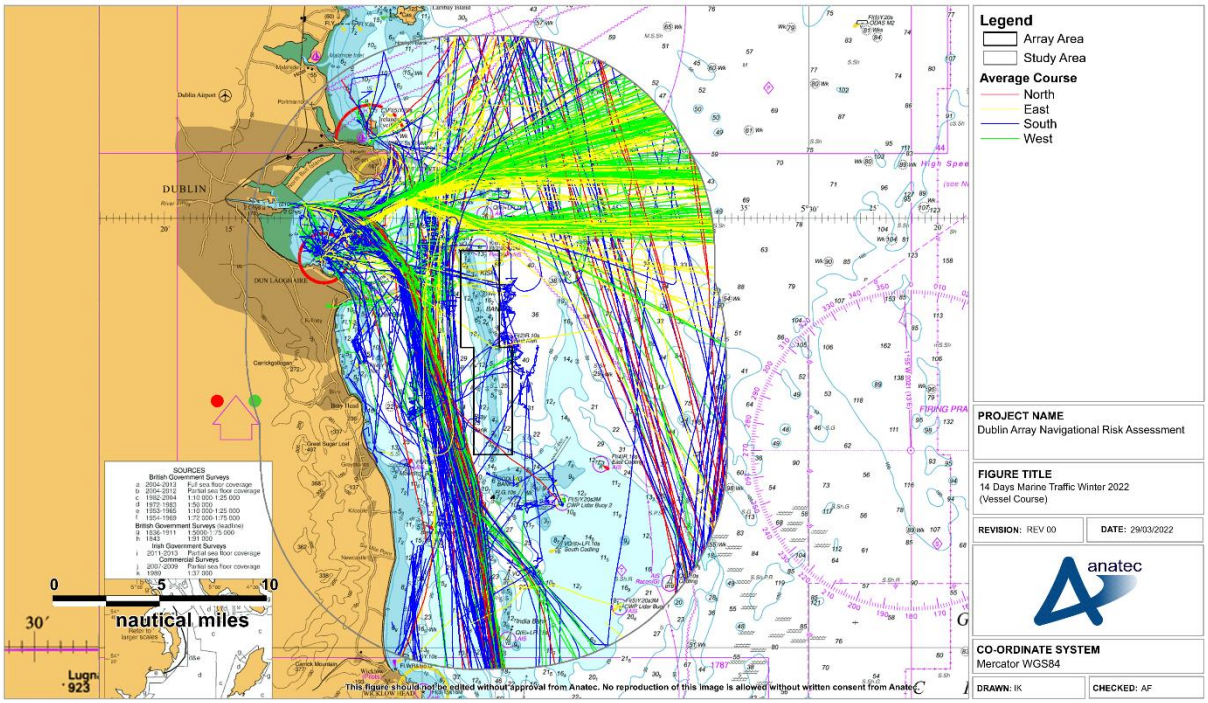

Figure 3.11: 14 Days Marine Traffic 2022 by Vessel Course

Eastbound and westbound vessels were, in the majority, associated with Dublin, with westbound vessels accounting for a slightly greater proportion of traffic (29% compared to 25%). There was a much greater disparity between northbound and southbound traffic, which comprised 9% and 37% of vessels respectively – however in this instance it should be considered that southbound traffic was observed to include the majority of fishing traffic in the area.

3.6 Vessel Speed

The vessels recorded within the study area during the survey period, colour-coded by vessel speed, are presented in Figure 3.12. It is noted that vessel speed was unspecified for <1% of these vessels, all of which were recorded via Radar.

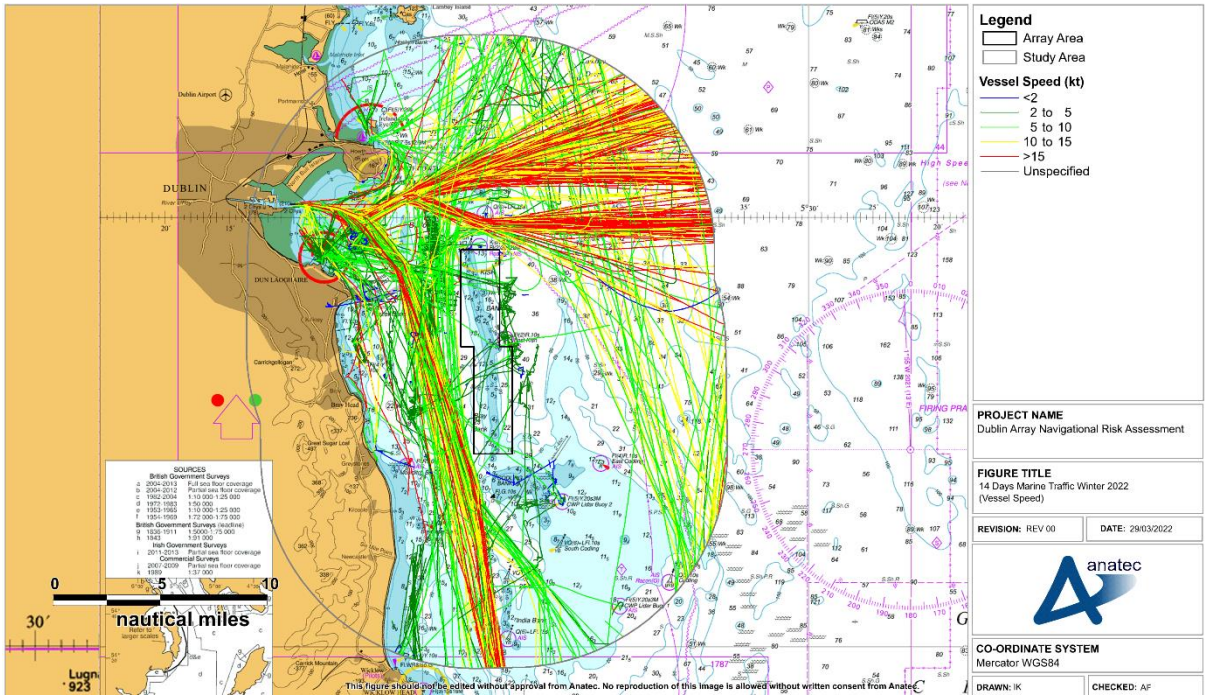

Figure 3.12: 14 Days Marine Traffic 2022 by Vessel Speed

The distribution of vessel speeds is presented in Figure 3.13, noting that this excluded vessels of unspecified speeds.

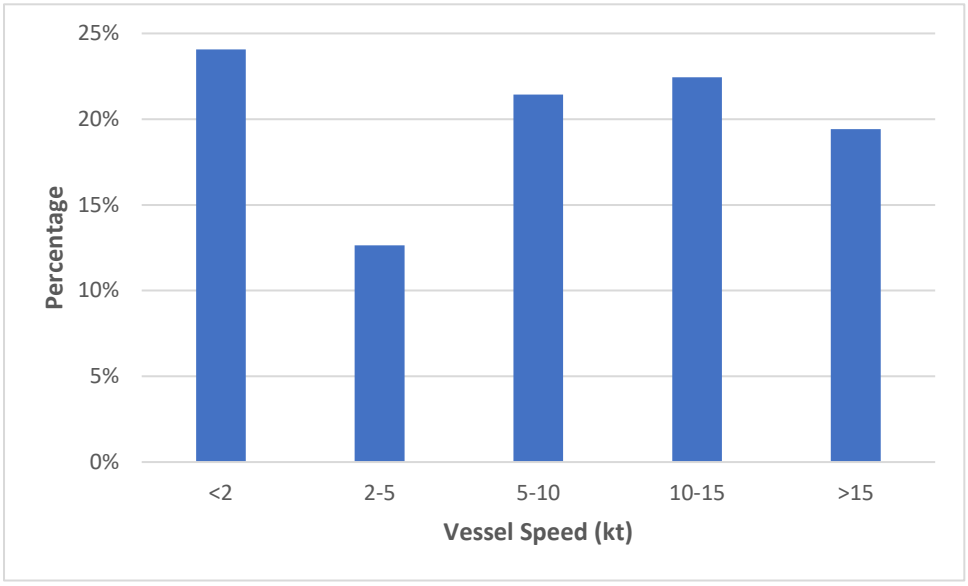

Figure 3.13: Distribution of Vessel Speeds

Excluding vessels of unspecified speeds, the average speed of vessels transiting in the study area during the survey period was 8.5 knots (kt). The fastest recorded vessel was a passenger vessel which transited at 28.9kt on the 14th of March 2022 on the scheduled Holyhead-Dublin route.

3.7 Vessel Destinations

Vessel destination data is broadcast over AIS, and using this the most frequently broadcast destinations are presented in Figure 3.14. Approximately 38% of AIS transits came from vessels that did not transmit a valid destination, and as such are not included.

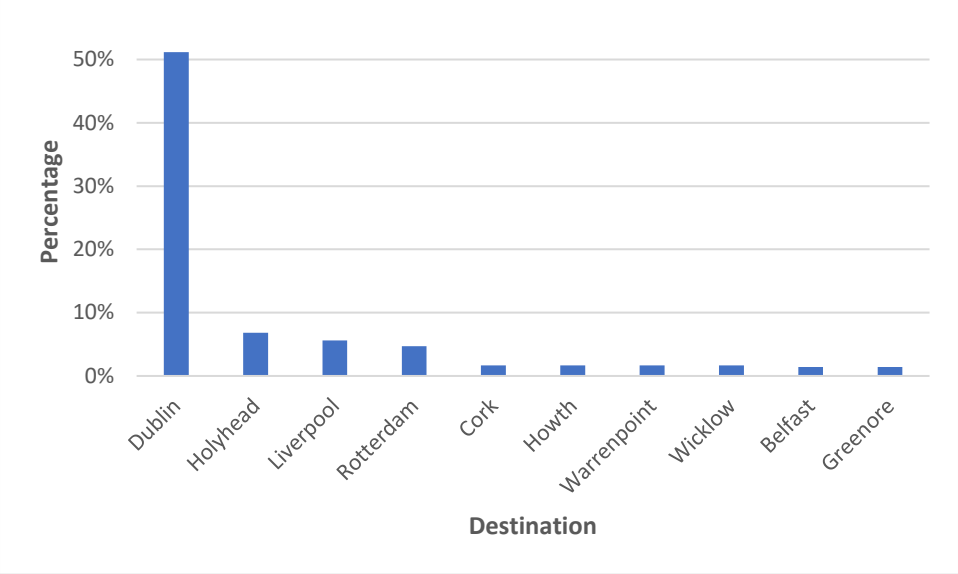

Figure 3.14: Distribution of Vessel Destinations

The most commonly-broadcast destination for vessels in the study area during the survey period was Dublin (51%). Other than the ports of Holyhead (7%), Liverpool (6%), and Rotterdam (5%), no other destination comprised more than 5% of the total broadcasts.

3.8 Vessels within 1nm of the Array Area

For the purposes of site-specific assessment, the vessel tracks recorded passing within 1nm of the array area are presented in Figure 3.15.

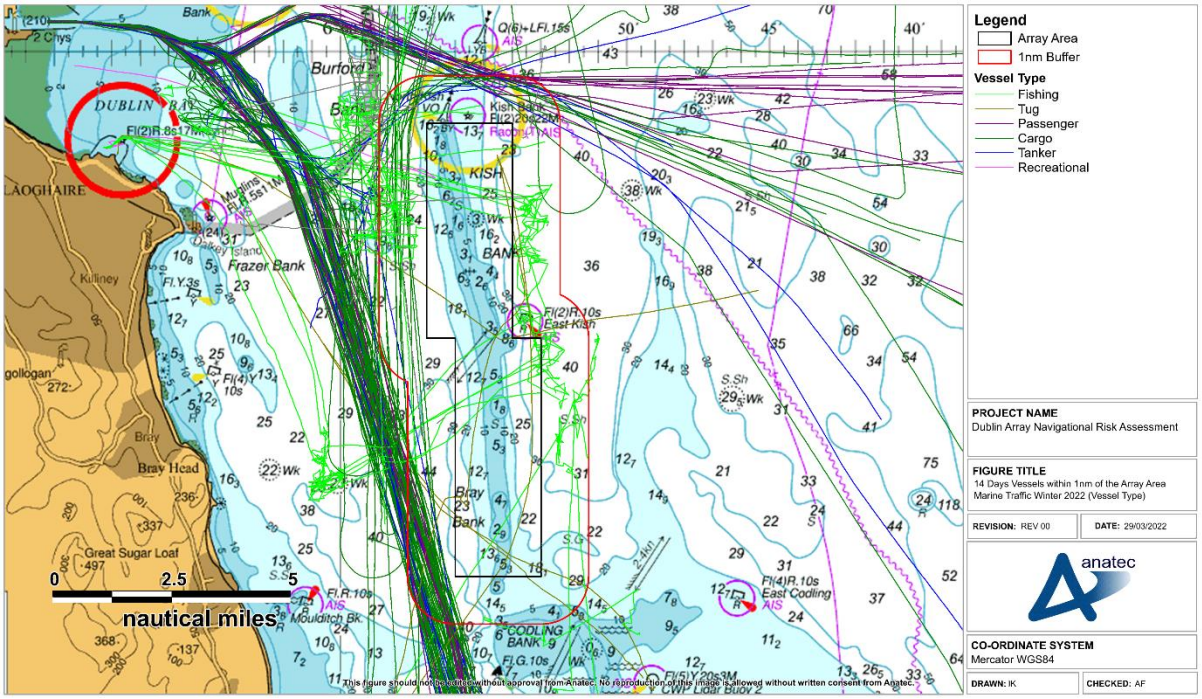

Figure 3.15: 14 Days Vessels within 1nm of the Array Area Marine Traffic Winter 2022 by Vessel Type

Of the vessels recorded within 1nm of the array area, 52% were recorded on AIS and 48% recorded on Radar.

During the survey period approximately 18 unique vessels per day passed within 1nm of the array area. Between one and two unique vessels per day passed through the boundary of the array area itself, with the majority of known vessel types intersecting the array being fishing vessels (70%).

The distribution of vessel types passing within 1nm of the array area is presented in Figure 3.16.

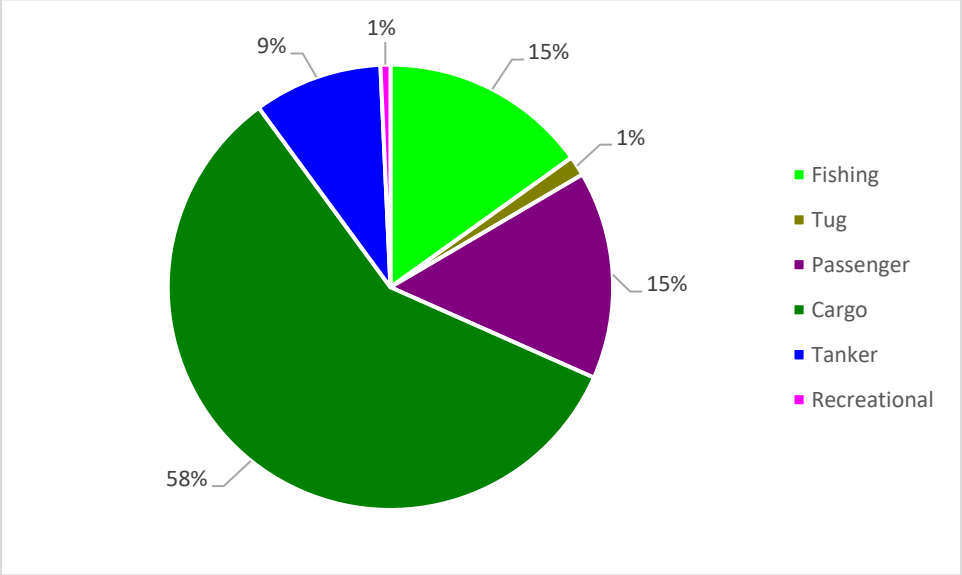

Figure 3.16: Distribution of Vessel Types within 1nm of the Array Area

The majority of vessels recorded within 1nm of the array area were cargo vessels (58%). Other significantly represented vessel types included fishing vessels (15%), passenger vessels (15%), and tankers (9%).

3.9 Visually Acquired Targets

A total of 31 vessel visual observations were made (i.e., non-AIS vessels that could not be successfully acquired via Radar) within the study area during the survey period. These are colour-coded by vessel type and presented in Figure 3.17.

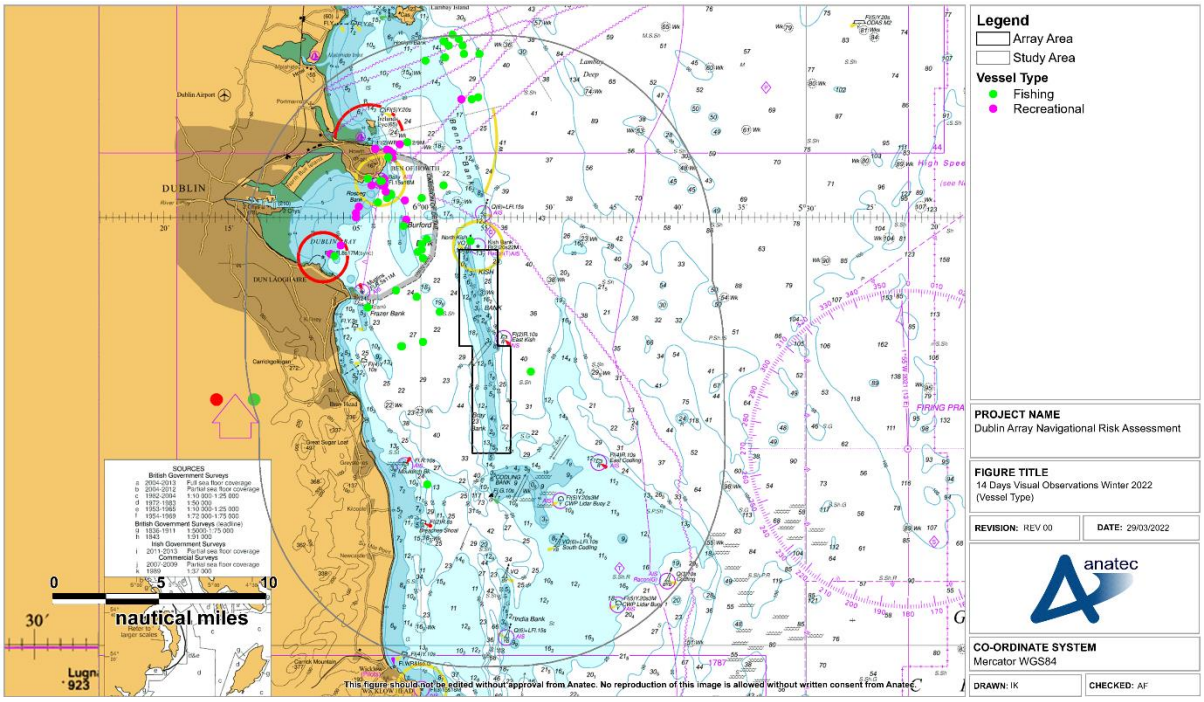

Figure 3.17: 14 Days Visual Observations Winter 2022 by Vessel Type

The vessel types recorded by visual observation within the study area during the survey period were composed solely of fishing vessels (65%) and recreational vessels (35%). All sightings were recorded outwith the array area.

4 Detailed Review by Vessel Type

The following sub-sections present a more detailed analysis of the main vessel types recorded throughout the survey period.

4.1 Cargo

The tracks of cargo vessels recorded within the study area during the survey period are presented in Figure 4.1.

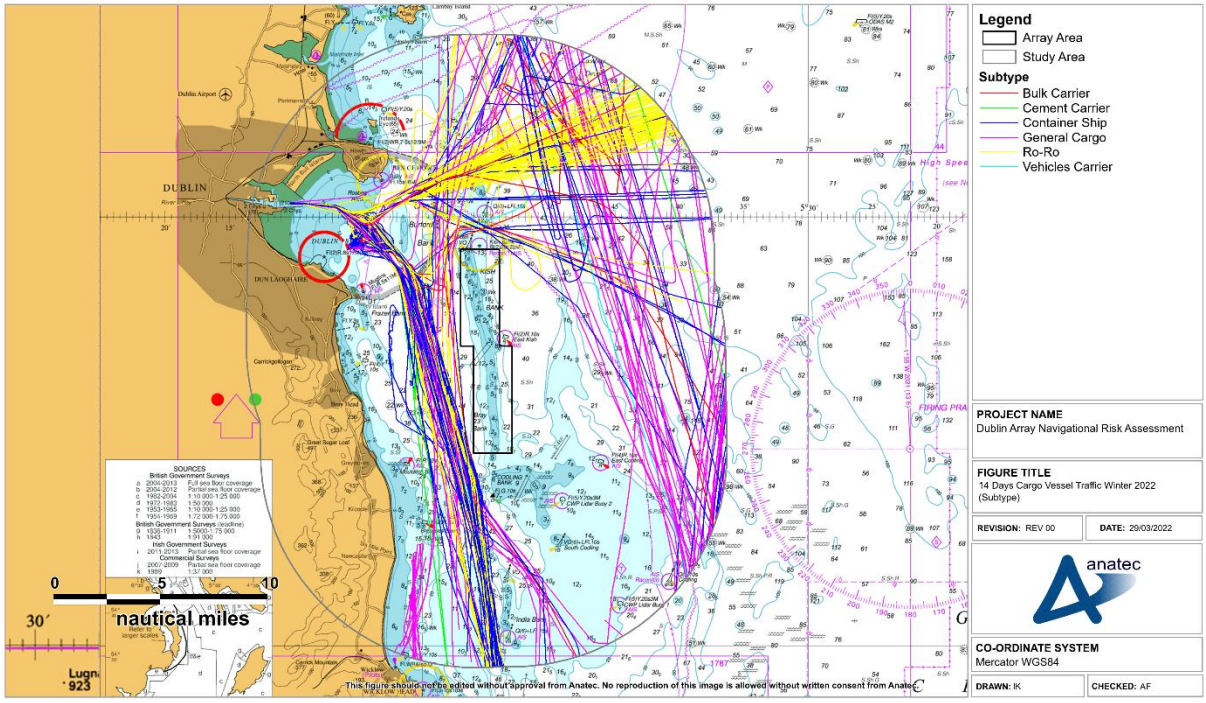

Figure 4.1: 14 Days Cargo Vessel Traffic Winter 2022 by Subtype

An average of 20 unique cargo vessels per day were recorded within the study area during the survey period. The most commonly recorded cargo subtypes were container ships (35%), Ro-Ro (34%) and general cargo (25%). Other cargo subtypes recorded included bulk carriers (4%), cement carriers (1%), and vehicles carriers (1%).

The most common destinations for cargo vessels within the study area during the survey period were Dublin (51%), Rotterdam (7%), and Liverpool (6%).

It is noted that commercial Ro-Ro routes were present in the area, with the relevant operators being Cobelfret, DFDS Seaways, Seatruck, and Stena Line.

4.2 Passenger

The tracks of passenger vessels recorded within the study area during the survey period are presented in Figure 4.2.

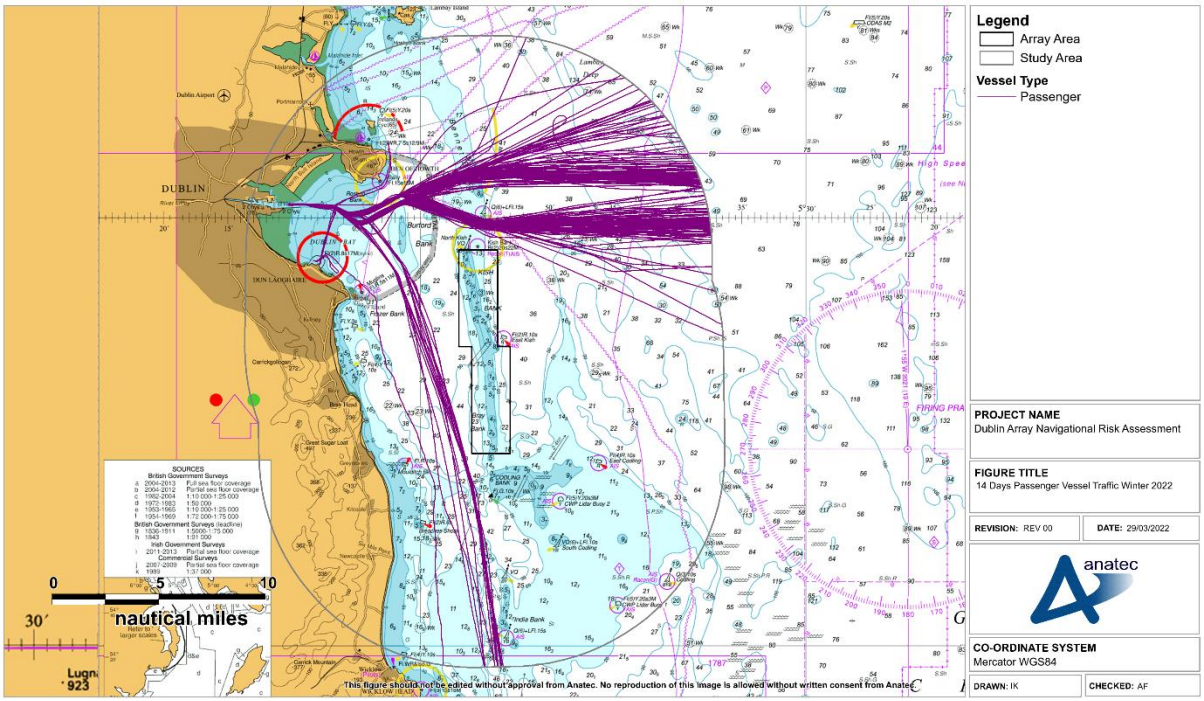

Figure 4.2: 14 Days Passenger Vessel Traffic Winter 2022

An average of six unique passenger vessels per day were recorded within the study area during the survey period.

The majority of passenger vessels transited on an east-west course between Dublin and Holyhead and Liverpool, although vessels transiting between Dublin and Cherbourg (France) were also recorded.

Commercial cruise line and Roll-on/Roll-off passenger (ROPAX) routes were also present in the area, with the key operators being Irish Ferries, P&O Ferries, and Stena Line.

4.3 Fishing

The tracks of fishing vessels recorded within the study area during the survey period are presented in Figure 4.3. Where speed or behaviour indicates potential fishing activity, this has been indicated via colour coding.

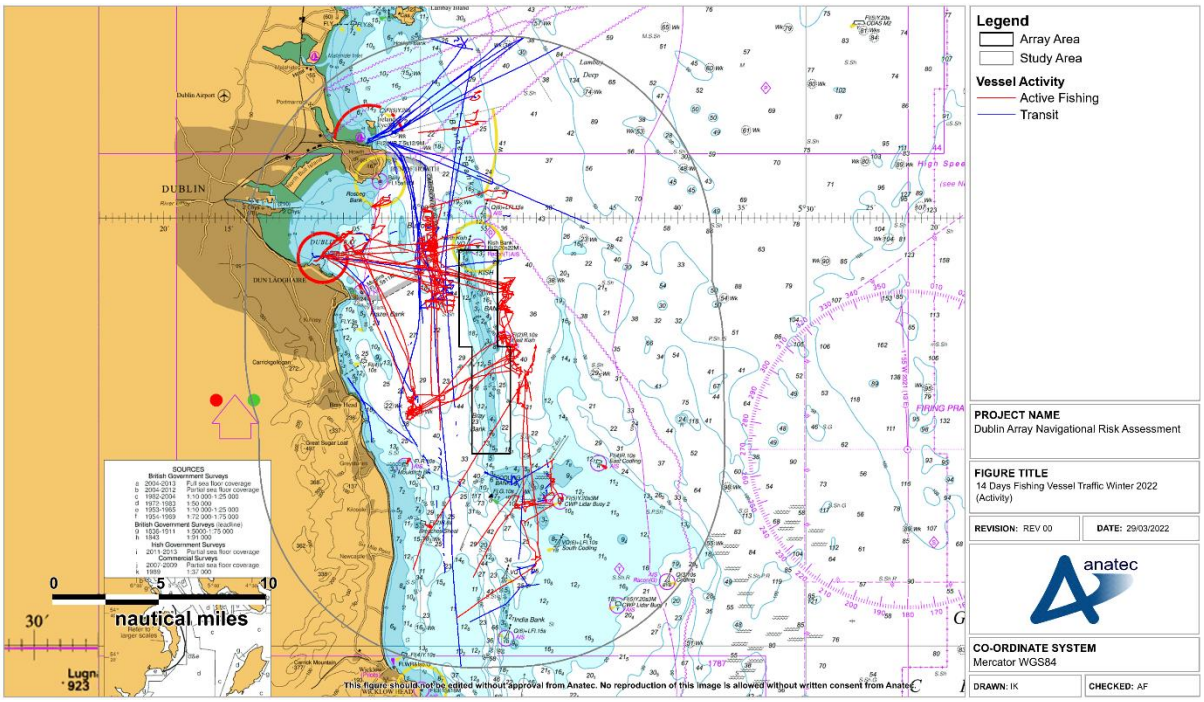

Figure 4.3: 14 Days Fishing Vessel Traffic Winter 2022 by Activity

An average of six unique fishing vessels per day were recorded within the study area during the survey period. Of these, 50% were recorded on AIS with 50% recorded on Radar.

Vessels likely engaged in actively fishing were most commonly recorded close to shore, with the majority of fishing vessels in transit on either a northeast-southwest course to the north of the array area, or a north-south course to the west of the array. These departed from the ports of Dún Laoghaire and Howth.

4.4 Recreational

The tracks of recreational vessels recorded within the study area during the survey period are presented in Figure 4.4.

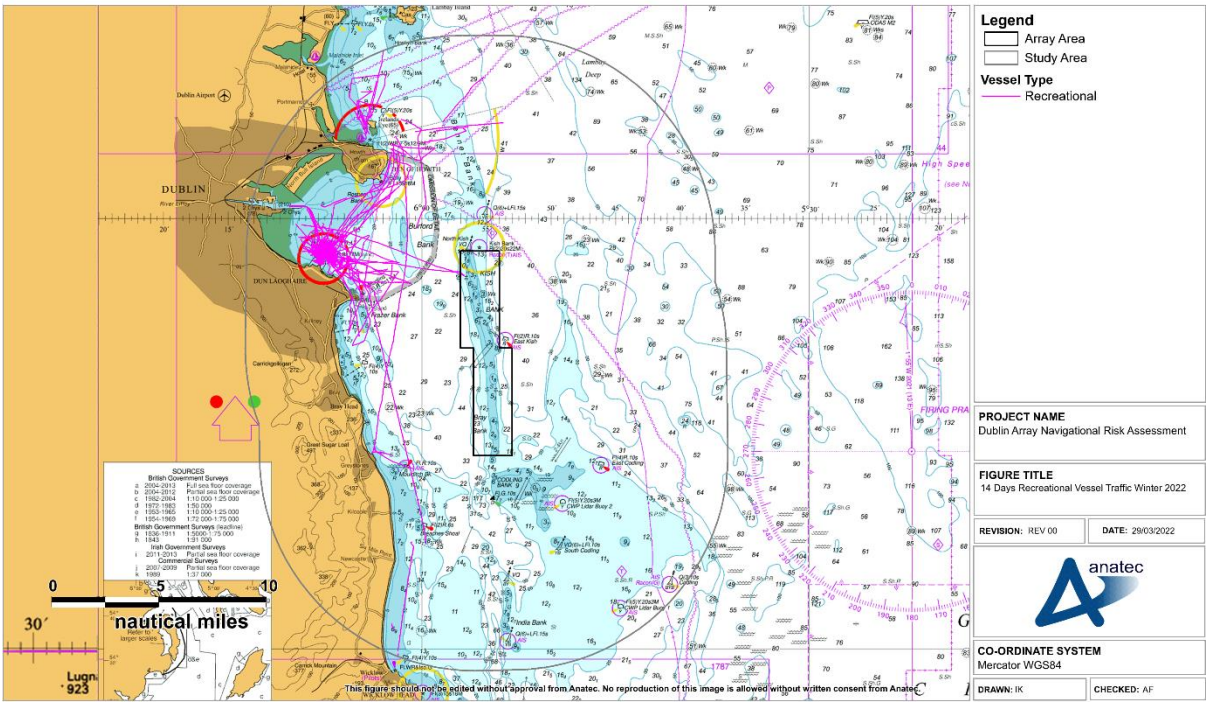

Figure 4.4: 14 Days Recreational Vessel Traffic Winter 2022

An average of between five and six recreational vessels per day were recorded within the study area during the survey period. Recreational vessels were predominantly recorded in or around the port of Dún Laoghaire, and all transits were noted to be close to the coast.

4.5 Tanker

The tracks of tankers recorded within the study area during the survey period are presented in Figure 4.5.

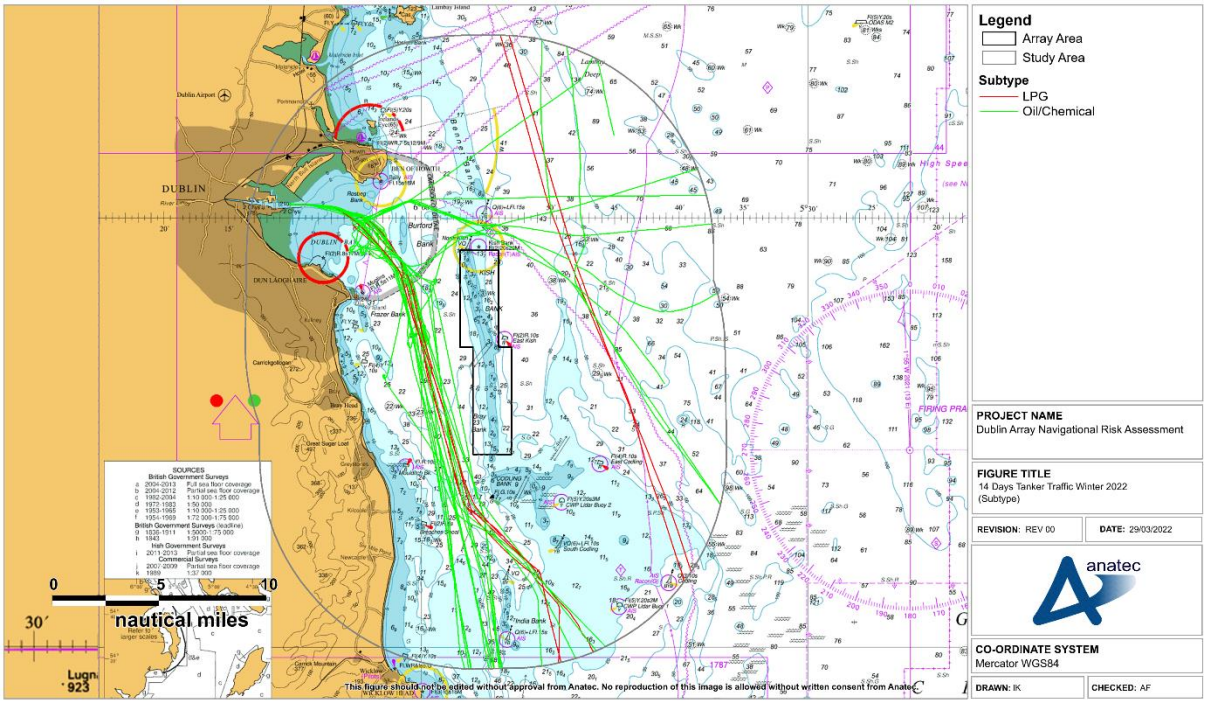

Figure 4.5: 14 Days Tanker Traffic Winter 2022 by Subtype

An average of three unique tankers per day were recorded within the study area during the survey period. The tanker subtypes recorded were oil/chemical tankers (86%) and Liquid Petroleum Gas (LPG) tankers (14%).

The most common destinations for tankers within the study area were Dublin (60%), Milford Haven (9%), and Pembroke (7%).

5 Summary

This report presents analysis of 14 days of AIS, Radar, and visual observation survey data in winter 2022 within 10nm of the array area. The survey was carried out from Baily Lighthouse from 11:00 UTC on the 2nd of March to 11:00 UTC on the 16th of March 2022, in order to determine the volume, types, and behaviour of vessels transiting through the area.

The main vessel types recorded transiting through the study area during the survey period were cargo vessels (44%), passenger vessels (14%), and fishing vessels (13%).

An average of 60 unique vessels per day were recorded transiting through the study area during the survey period. The busiest day during the survey period was the 14th of March 2022 on which 87 unique vessels were recorded. The quietist full day during the survey period was the 11th of March 2022, on which 35 unique vessels were recorded.

The average length of vessels recorded within the study area during the survey period was 114m. The average draught of vessels recorded within the study area during the survey period was 6.1m. The average speed of vessels recorded within the study area during the survey period was 8.5kt.

The most common destinations for vessels recorded within the study area during the survey period were Dublin (51%), Holyhead (7%), and Liverpool (6%). Vessels predominantly transited in a westbound or southbound direction in the study area during the survey period.

There were, on average, 18 unique vessels per day passing within 1nm of the array area during the survey period, with the majority of vessels passing through the array area itself being fishing vessels (70%).

Four Ro-Ro vessel operators were recorded within the study area during the survey period, with the main operator recorded being Seatruck. Seatruck vessels transited between Dublin and Liverpool. ROPAX vessels recorded transiting through the study area were on passage between Dublin and Holyhead, Liverpool, and Cherbourg.

An average of six unique fishing vessels per day were recorded in the study area during the survey period. Commercial fishing activity was split between vessels transiting, and those actively fishing, with the majority of fishing activity being close to the coast. Recreational vessel activity was similar to fishing activity, with an average of between five and six unique recreational vessels per day recorded.

There were 50 unique instances of vessels anchoring within the study area during the survey period, comprised of cargo vessels (84%), and tankers (16%). Due to Dublin Bay anchorage often being at capacity, vessels have begun to also anchor further south (as per consultation undertaken with Dublin Port as part of the NRA process).

6 References

MCA (2021). MGN 654 (Merchant and Fishing) Offshore Renewable Energy Installations (OREI) – Guidance on UK Navigational Practice, Safety and Emergency Response, Southampton: MCA.