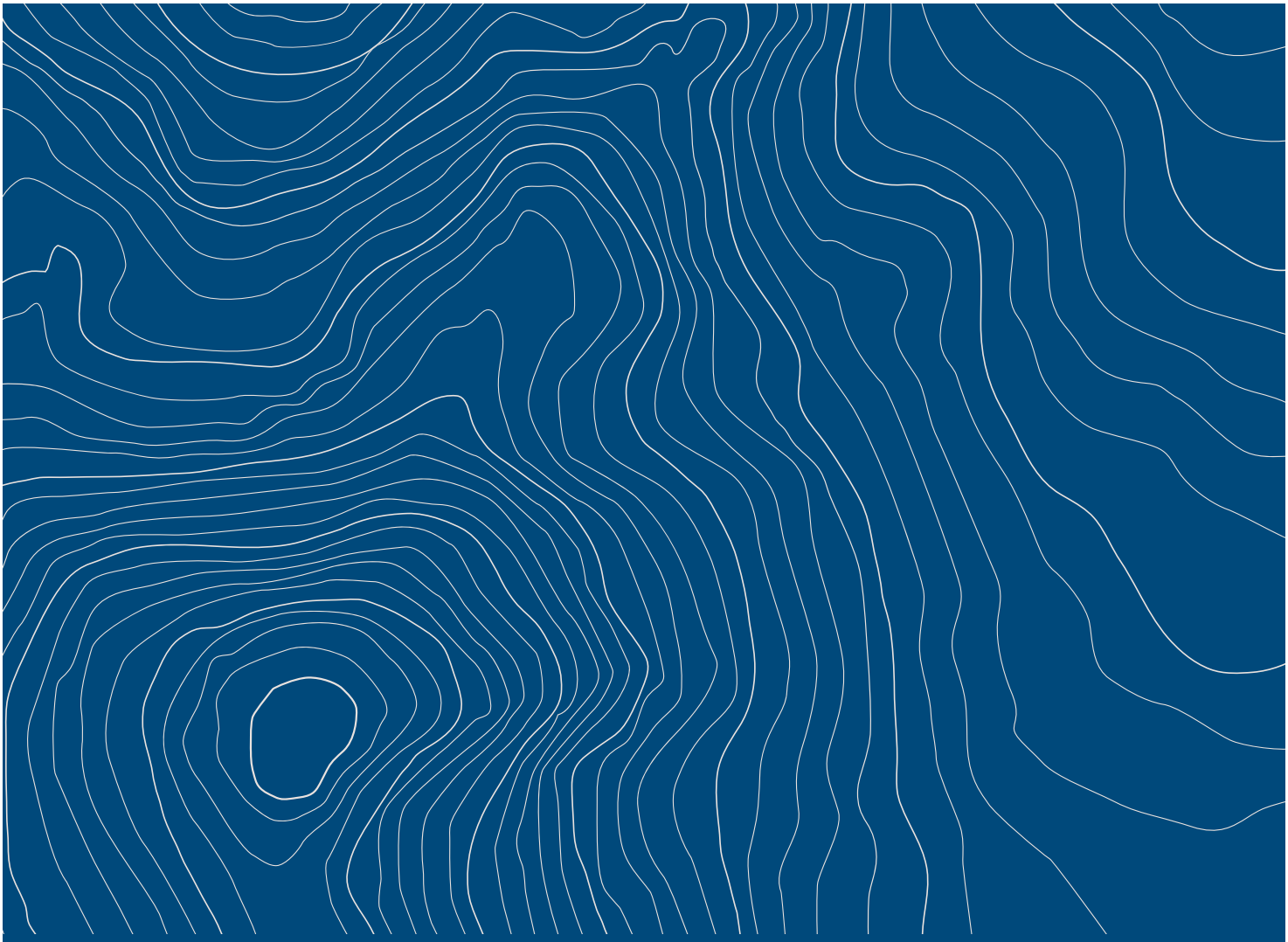

Dublin Array
Generation for generations

EIAR Volume 4: Offshore Infrastructure Technical Appendices Appendix 4.3.10-5 Dublin Array Vessel Traffic Survey Report Summer Survey 2023

Kish Offshore Wind Ltd

RWE SLR GoBe APEM Group

www.dublinarray-marineplanning.ie

Dublin Array Offshore Wind Farm
Vessel Traffic Survey Report
Summer 2023

Prepared by	Anatec Limited
Presented to	RWE
Date	20th October 2023
Revision Number	00
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Abbreviations Table

Abbreviation	Definition
AIS	Automatic Identification System
ARPA	Automatic Radar Plotting Aid
IMO	International Maritime Organisation
m	Metre
MCA	Maritime and Coastguard Agency
MGN	Marine Guidance Note
MMSI	Mobile Maritime Service Identity
nm	Nautical Mile
NRA	Navigational Risk Assessment
OWF	Offshore Wind Farm
Radar	Radio Detection and Ranging
Ro-Pax	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
VHF	Very High Frequency

1 Introduction

As part of the Navigational Risk Assessment (NRA) process, vessel traffic survey data has been gathered for the area surrounding the proposed Dublin Array Offshore Wind Farm, hereafter referred to as the 'site.'

It is noted that 42 days of marine traffic survey data has already been collected in total, with 14 days of data collected in November 2019, 14 days collected in August and September 2021, and 14 days in March 2022.

This report presents analysis of the 2023 shore-based survey which has been carried out from the Baily Lighthouse (at Howth), between the 17th August and the 31st August 2023. 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 56 days, 28 of these days (the data collected in November 2019, August 2021 and September 2021) are out with the required 24-month MGN stipulation. Alongside the 14 days of data collected in March 2022, the 14-day survey data collected in August 2023 will bring the survey data within 24 months prior to the NRA submission to 28 days, and thus comply with MGN 654.

2 Survey Methodology

A marine traffic survey of the site and 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 position was located directly on the coastline offering good line of sight of the site and the surrounding waters.

Given the survey position is in the northwest of the study area, the southern and eastern extents of the study area may have 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, site and study area are presented in Figure 2.1 and Figure 2.2.

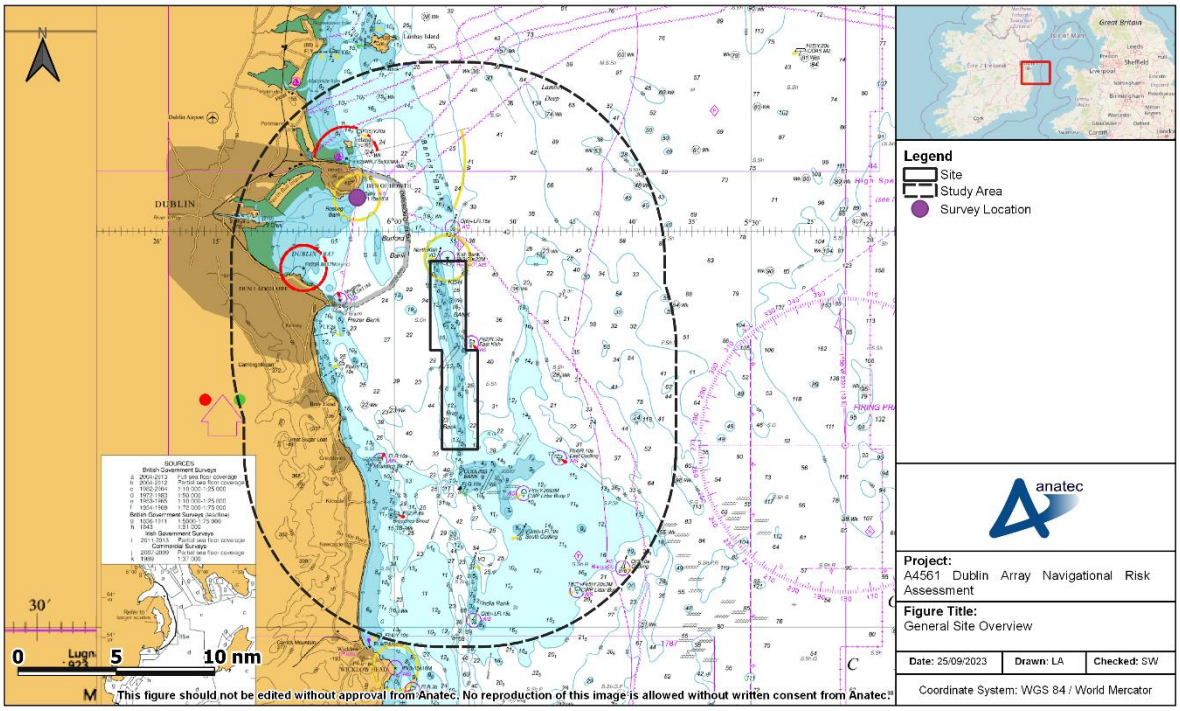

Figure 2.1 General Site Overview

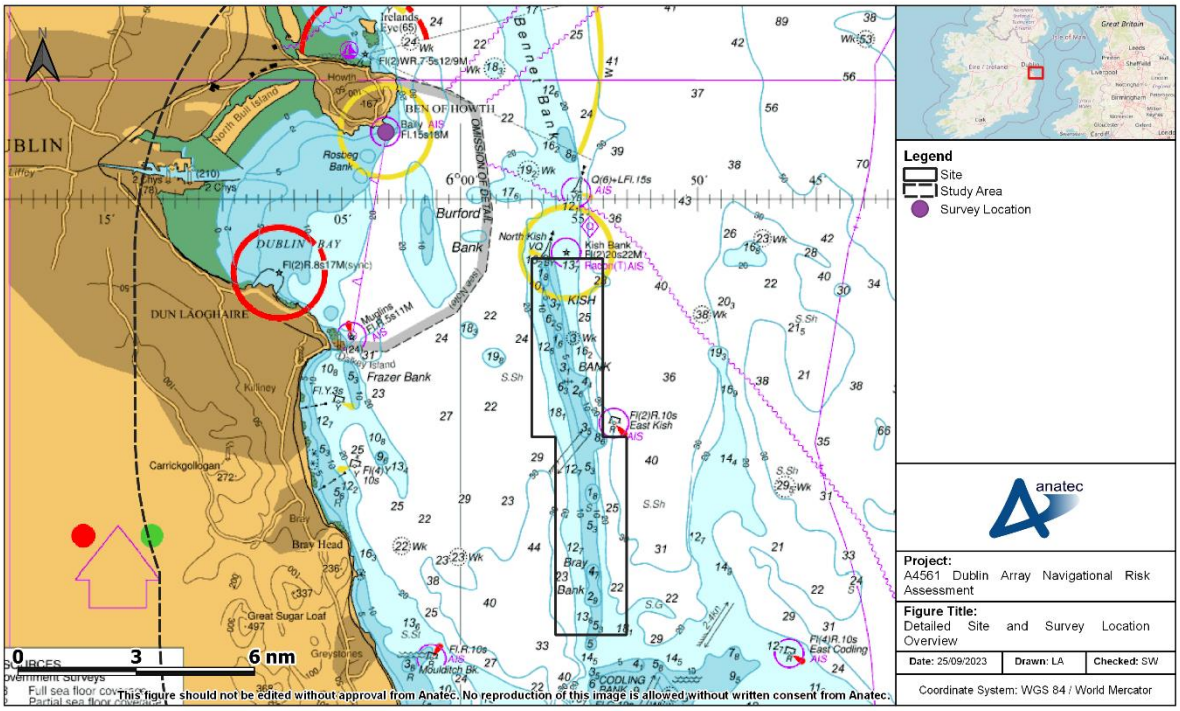

Figure 2.2 Detailed Site and Survey Location Overview

Reliable Radar coverage was observed to extend approximately 15nm south and east of the survey location, 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 is a 15nm buffer of the survey location relative to the site.

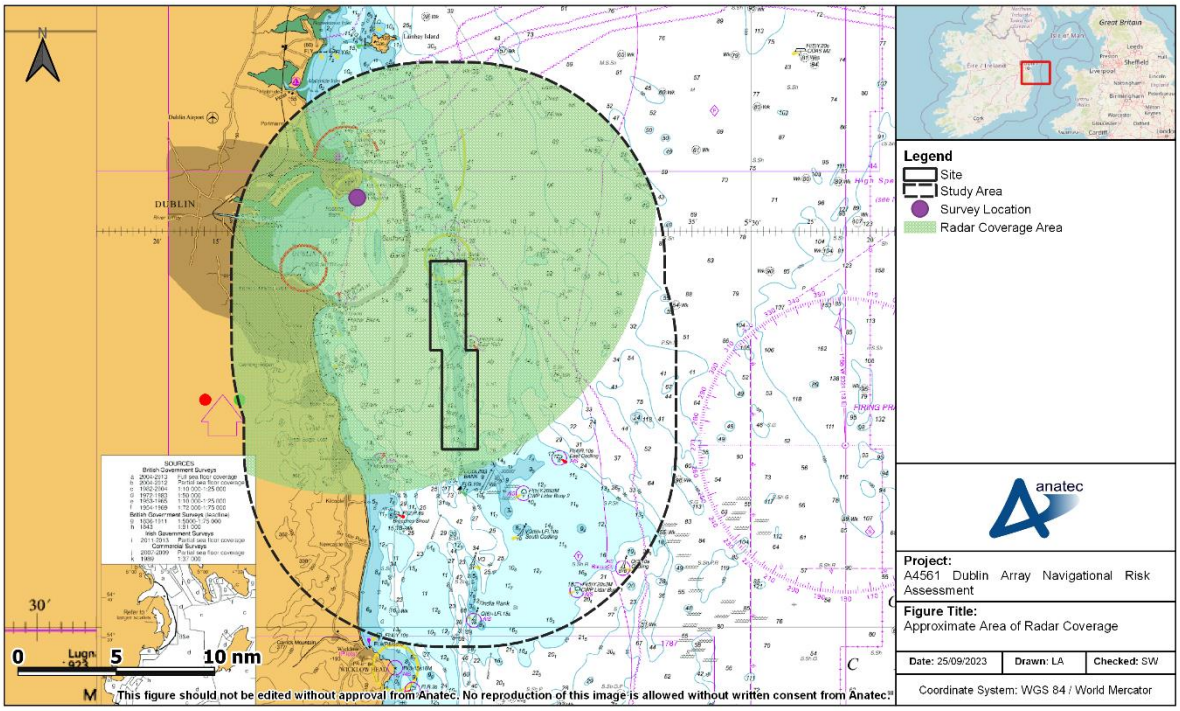

Figure 2.3 Approximate Area of Radar Coverage

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.

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 Vessel ▪ 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 throughout the survey period where possible and is presented in Table 2.3.

Table 2.3 Weather Data

Date	Time	Wind (Direction & Speed (knots))	Sea State (Douglas Scale)	Visibility (nm)	Comments
17/08/2023	13:00	Southeast, 20	Calm	10	Hazy/Sunny
	18:00	Southeast, 10	Moderate	5	Haze/Overcast
	21:07	East Southeast, 9.3	Moderate	3	Mist
18/08/2023	06:30	Southeast, 30	Moderate	3	Mist and Fog
	12:00	Southeast, 35	Moderate	3	Mist and Fog
	18:00	Southeast, 35	Rough	3	Weather Picking Up
	23:00	Southeast, 25	Very Rough	3	Stormy
19/08/2023	06:30	Southwest, 42	Rough	3	Stormy Rain Easing
	10:00	Southwest, 25	Moderate/Rough	10	Winds Abating, Sunny
	12:00	Southwest, 25	Moderate	10	Sunny, Windy
	18:00	Southwest, 13	Moderate	10	-
20/08/2023	06:30	Southwest, 8	Calm	10	Partial Cloud/Sunny
	12:00	Southwest, 8	Calm	10	Sunny
	18:00	South Southwest, 14	Calm	10	Sun
21/08/2023	06:30	3	Calm	5	Sea Fog/ Sunny
	12:00	12	Moderate	10	Sunny
	18:00	South Southwest, 15	Calm	10	-
	23:00	South Southwest, 14	Moderate	10	-
22/08/2023	06:30	South Southwest, 12	Calm	10	Partial Cloud/Sunny

Date	Time	Wind (Direction & Speed (knots))	Sea State (Douglas Scale)	Visibility (nm)	Comments
	12:00	Southwest, 10	Calm	10	Partial Cloud/Sunny
	18:00	West, 9.3	Calm	10	-
	23:00	West, 7.3	Calm	10	-
23/08/2023	06:30	Southwest, 8	Calm	8	Cloudy
	12:00	Southwest, 10	Calm	10	Cloudy/Sunny
	18:00	Southwest, 4.7	Calm	10	Mist
24/08/2023	06:30	Southwest, 8	Calm	10	Partial Cloud
	12:00	Southwest, 8	Calm	10	Sunny
	18:00	West, 9.5	Calm	10	-
	23:00	West Southwest, 8.3	Calm	5	Mist
25/08/2023	06:30	West, 8	Calm	10	Partial Cloud
	12:00	West Northwest, 6	Calm	10	Partial Cloud
	18:00	North Northwest, 7.3	Calm	5	Thunder Rain
	23:00	Northwest, 7	Calm	5	-
26/08/2023	06:30	West Southwest, 5	Calm	10	Cloudy/Dry
	12:00	West Southwest, 7	Calm		-
	18:00	North Northwest, 12	Calm	5	Rain
	23:00	Northwest, 14	calm	5	Mist
27/08/2023	06:30	West, 5	Calm	10	Full Cloud
	12:00	Northwest, 12	Calm	10	Cloud/Showers
	18:00	Northwest, 13	Calm	5	Rain
	23:00	Northwest, 14	Calm	10	-
28/08/2023	06:30	Northwest, 5	Calm	10	Partial Cloud
	12:00	Northwest, 7	Calm	10	Sunny
	18:00	West, 6.6	Calm	10	-
	23:00	West, 6.6	Calm	10	-

Date	Time	Wind (Direction & Speed (knots))	Sea State (Douglas Scale)	Visibility (nm)	Comments
29/08/2023	06:30	West, 7	Calm	10	Cloudy
	12:00	West Southwest, 7	Calm	10	Sunny
	18:00	West Northwest, 13	Calm	10	Overcast
	23:00	West, 12	Calm	10	-
30/08/2023	06:30	7	Calm	10	Clear
	12:00	8	Calm	10	Sunny
	18:00	South Southwest, 5.8	Calm	20	-
	23:00	Southwest, 4.7	Calm	20	-
31/08/2023	06:30	Southwest, 12	Moderate	10	Cloudy
	11:30	Southwest, 20	Moderate	4	Cloudy, Sea Fog

3 Survey Results

This section presents analysis of AIS and Radar tracks recorded within 10nm of the site during the 14-day survey period.

Temporary traffic, such as vessels carrying out surveys within the study area, were removed from analysis to focus on routine activity surrounding the site. Additionally, moored vessels which were observed to stay within Dublin Harbour, Dun Laoghaire Marina, Howth Harbour, or Greystones Marina for the duration of the survey period were also removed to avoid misconstruing the data and misrepresenting genuine vessel traffic activity. In any instance of a vessel being recorded via both AIS and Radar, the track providing the most complete coverage has been utilised.

3.1 Vessel Type

Figure 3.1 presents the AIS and Radar tracks recorded within the study area during the survey period colour-coded by vessel type. It is noted that not all Radar targets could be assigned a type. Vessels of unspecified types accounted for less than 1% of all traffic. These are shown in Figure 3.1 but are excluded from analysis in Figure 3.2.

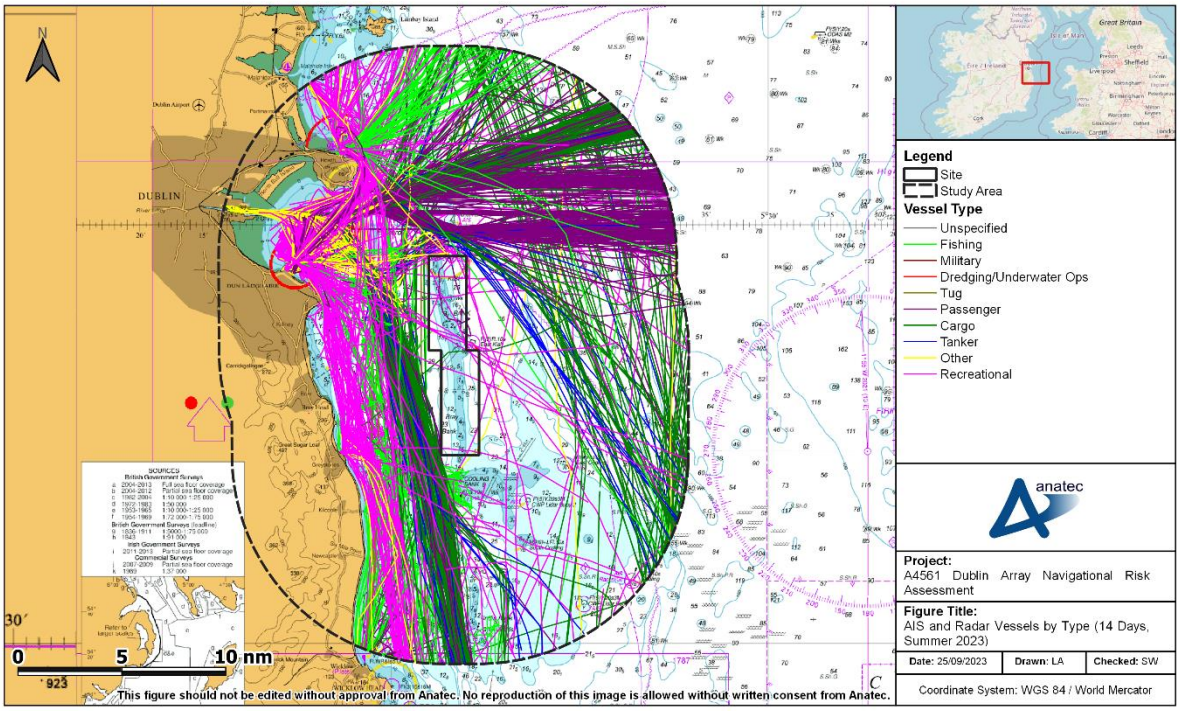

Figure 3.1 AIS and Radar Vessels by Type (14 Days, Summer 2023)

Recreational and Fishing vessels were most active within the near shore areas with infrequent activity in the east of the study area. Cargo vessels were seen routeing to/from Dublin on a north/south course to the west of the site as well as northeast/southwest route to the north of the site. Additional cargo activity was noted in the east of the study area. Roll-on/Roll-off passenger (Ro-Pax) ferries and cruise liners followed similar routeing patterns as cargo

vessels, with heaviest activity passing the north of the site in an east/west course. Tankers were recorded routeing to/from Dublin on two main routes, a north/south course passing the west of the site and a northwest/southeast course passing the east of the site. Other vessels were predominantly recorded in and around Dublin Bay.

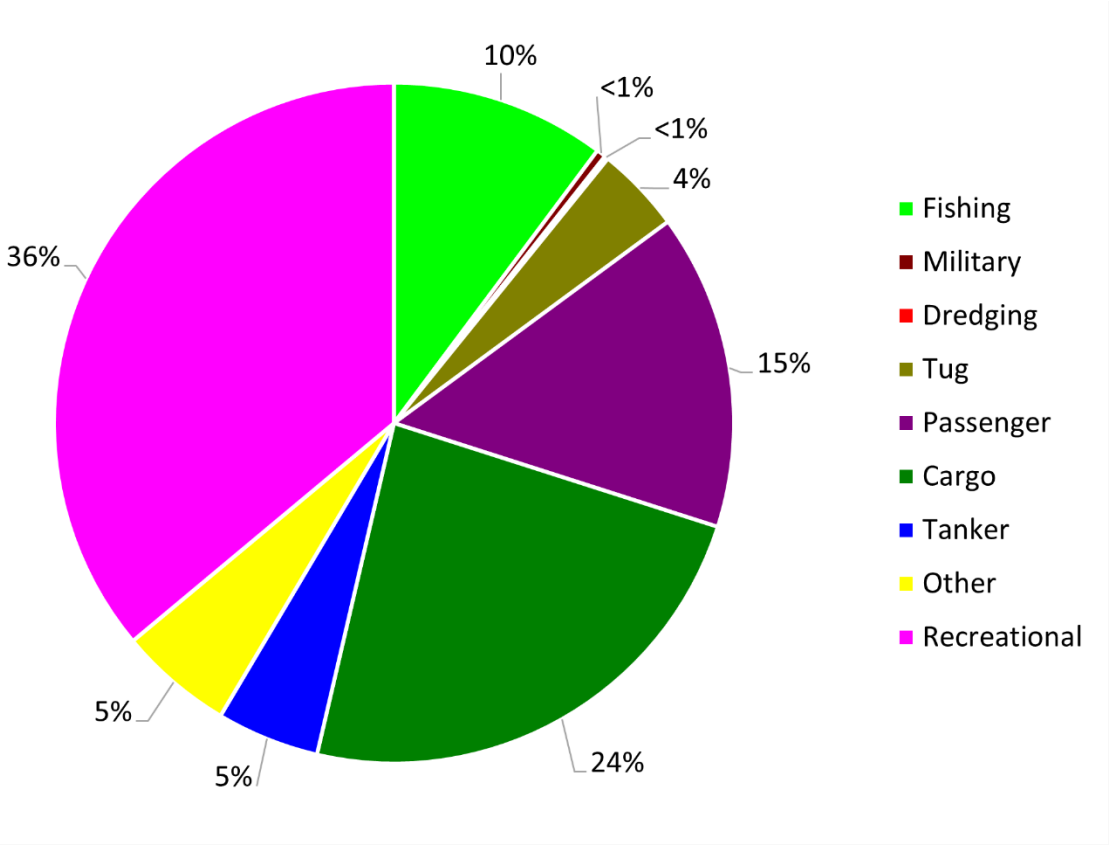

Figure 3.2 Distribution of AIS and Radar Vessel Type (14 Days, Summer 2023)

Recreational vessels were the most commonly recorded vessel type within the study area during the survey period at 36%. This was followed by cargo and passenger vessels at 24% and 15% respectively. Fishing vessels made up 10% of recorded traffic, and vessels deemed as 'other' accounted for just over 5%. All other vessel types recorded accounted for less than 5% of overall vessel activity within the study area during the survey period.

3.2 Vessel Count

Figure 3.3 presents the distribution of unique vessels recorded within the study area per day of the survey. It is noted that the survey began at 10:30 on the 17th August and concluded at 10:30 on the 31st August 2022 thus both days were partial and have been colour-coded as such.

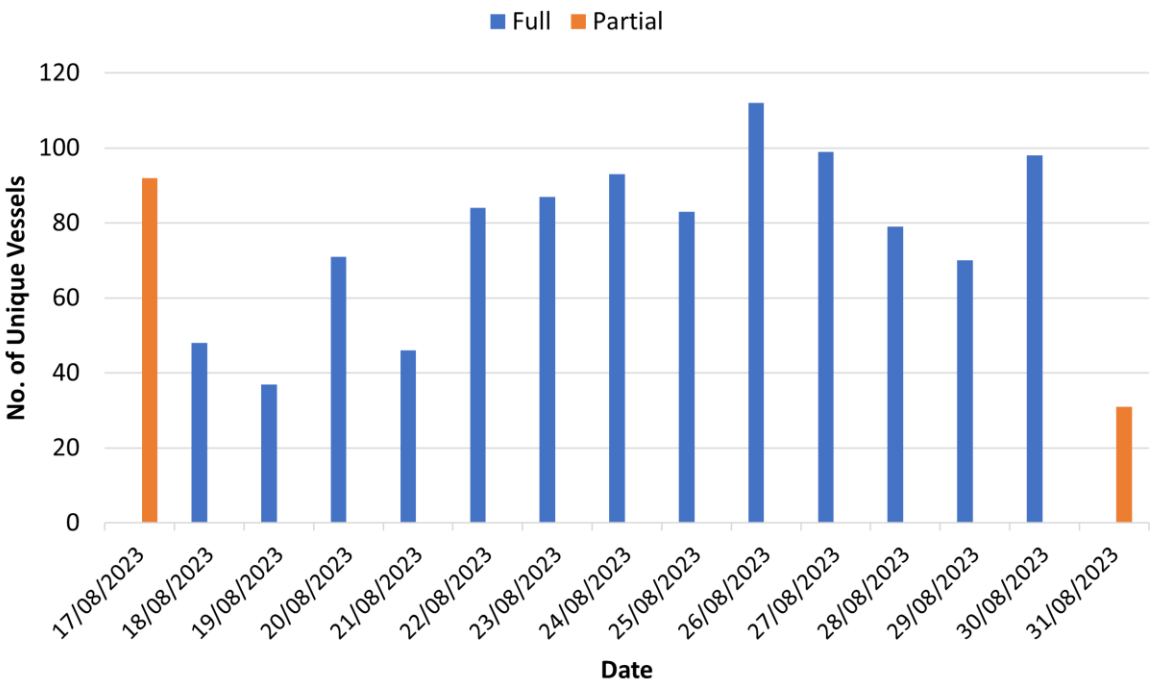

Figure 3.3 Number of Unique Vessels Per Day (14 Days, Summer 2023)

On average, 81 unique vessels were recorded within the study area per day of the survey period. The 26th August was the busiest day with 112 unique vessels recorded, the quietest full day was the 19th August which recorded 37 unique vessels.

3.3 Vessel Size

3.3.1 Vessel Length

Figure 3.4 presents the AIS and Radar tracks recorded within the study area during the survey period, colour-coded by length. It is noted that lengths were unspecified for 13% of recorded traffic and are shown in the figure below but are excluded from analysis in Figure 3.5.

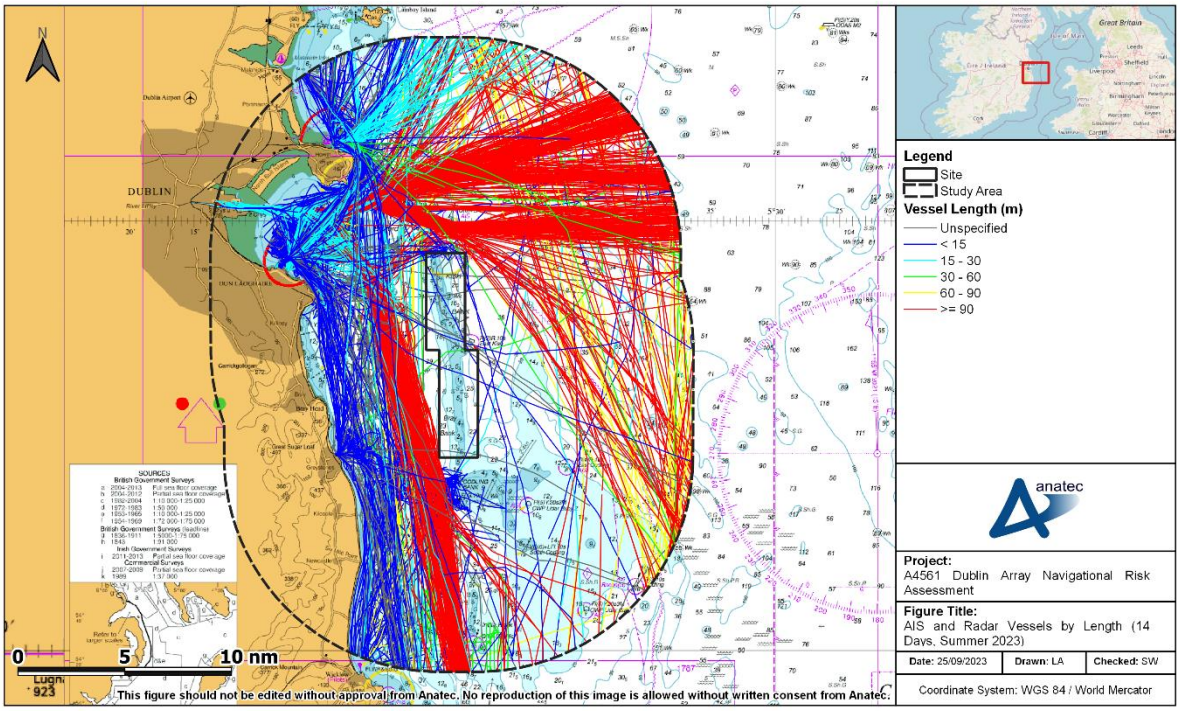

Figure 3.4 AIS and Radar Vessels by Length (14 Days, Summer 2023)

Vessels with lengths below 30m were predominantly recorded near to the coast and around Dublin Bay. Vessels of lengths above 30m were noted to follow routeing patterns as was observed with passenger and cargo vessels, with highest activity to the west and north of the site, on route to/from Dublin.

Figure 3.5 presents the distribution of vessel lengths recorded within the study area during the survey period.

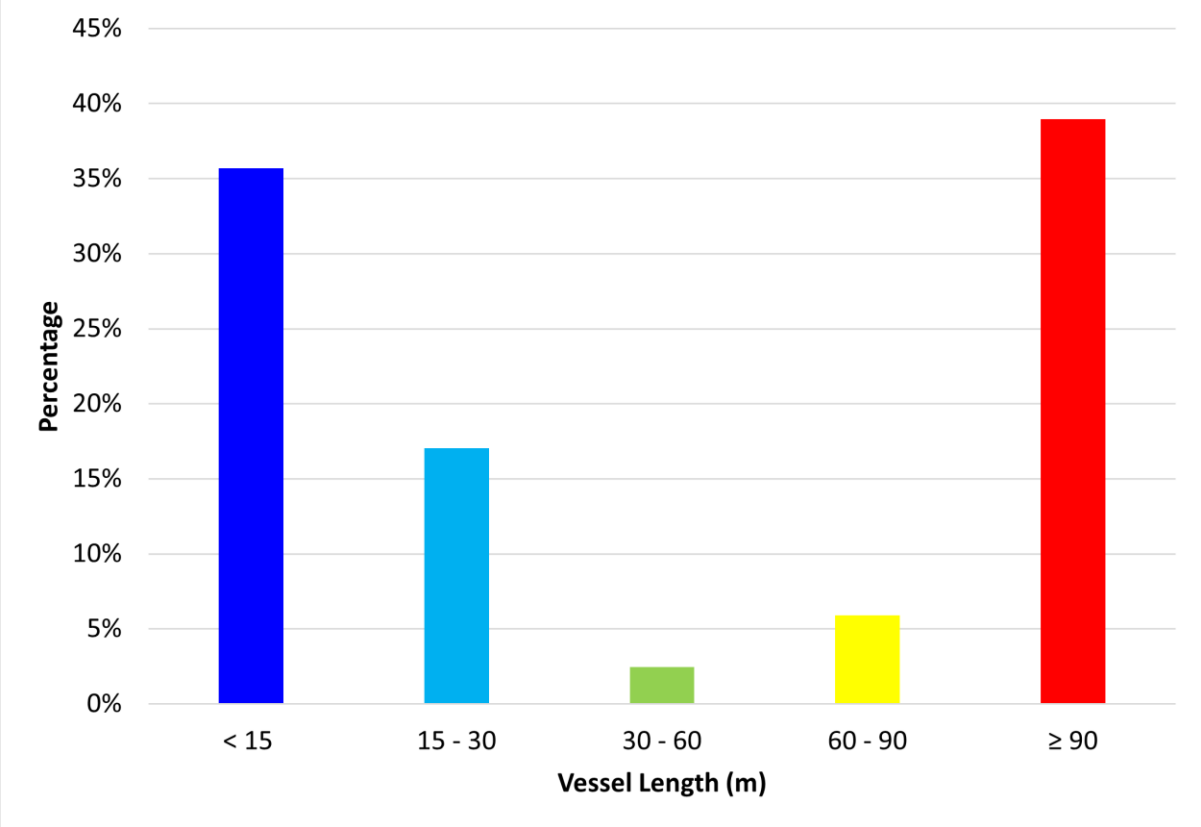

Figure 3.5 Distribution of AIS and Radar Vessel Length (14 Days, Summer 2023)

Vessel lengths were most common above 90m (39%) and below 15m (36%). This reflects the high level of recreational vessels which tend to be small, and the high number of cargo and passenger vessels which are usually larger. Vessels with unknown lengths were mostly recreational or fishing vessels, thus it is likely they would have lengths below 30m.

The overall average length was 74m. The vessel with the largest length recorded was the cruise liner *Regal Princess* recorded on route to Dun Laoghaire and Belfast (UK) with a length of 330m, passing roughly 0.5nm northeast of the site.

3.3.2 Vessel Draught

Figure 3.6 shows the AIS and Radar tracks recorded within the study area during the survey period colour-coded by draught. It is noted that roughly 42% of recorded draughts were invalid and have been removed from analysis in Figure 3.7, but are included in Figure 3.6.

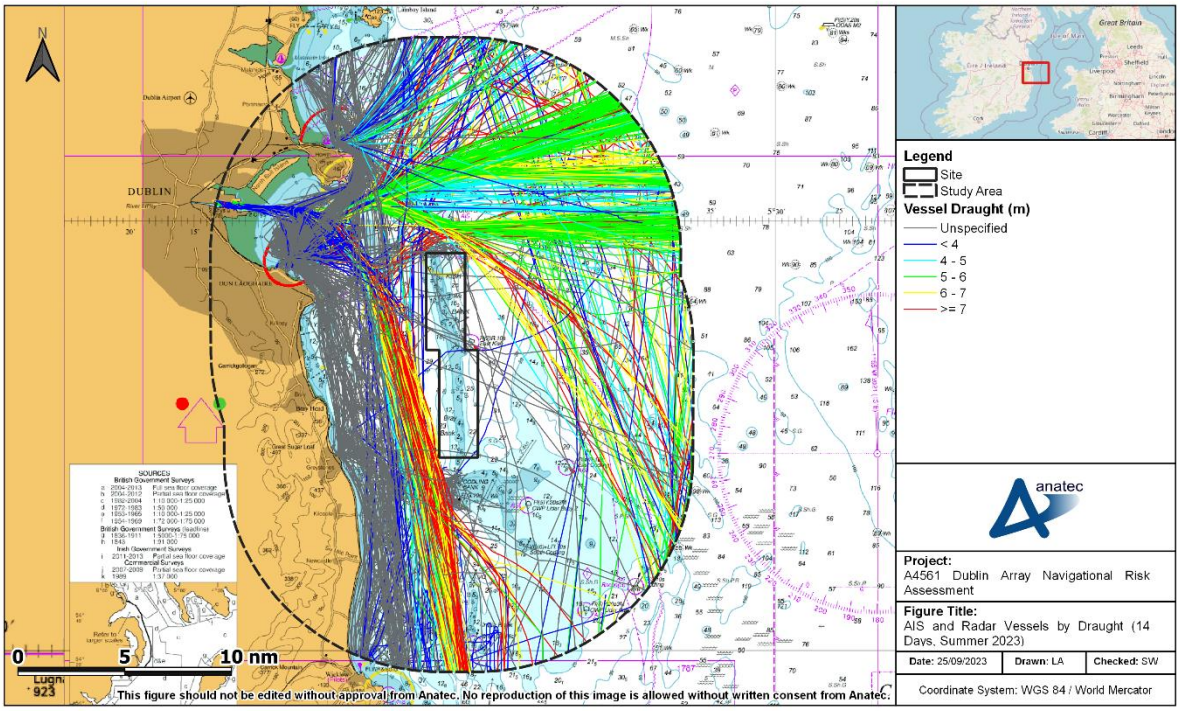

Figure 3.6 AIS and Radar Vessels by Draught (14 Days, Summer 2023)

A variety of draughts were recorded throughout the study area, with vessels of shallower draughts generally transiting at greater proximity to the shore compared to those with deeper draughts.

Figure 3.7 shows the distribution of draughts recorded within the study area during the survey period, excluding unspecified draughts.

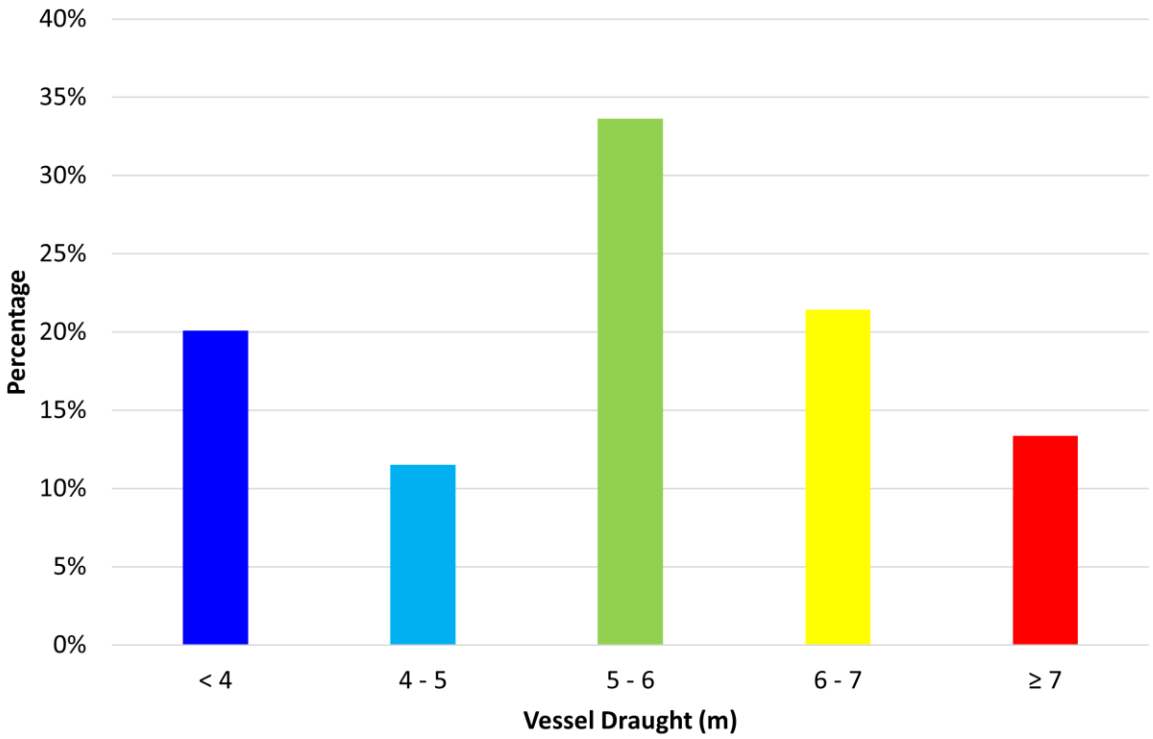

Figure 3.7 Distribution of AIS and Radar Vessel Draught (14 Days, Summer 2023)

The overall average draught recorded within the study area was 5.2m, with between 5m and 6m being the most common (34%). The vessel which recorded the deepest draught was the cargo vessel *Charles*, passing the southeast of the study area whilst on route to Belfast (UK), with a draught of 11.2m.

3.4 Vessel Course

Figure presents the AIS and Radar tracks recorded within the study area during the survey period, colour-coded by average course. Unspecified course accounted for less than 1% of all data.

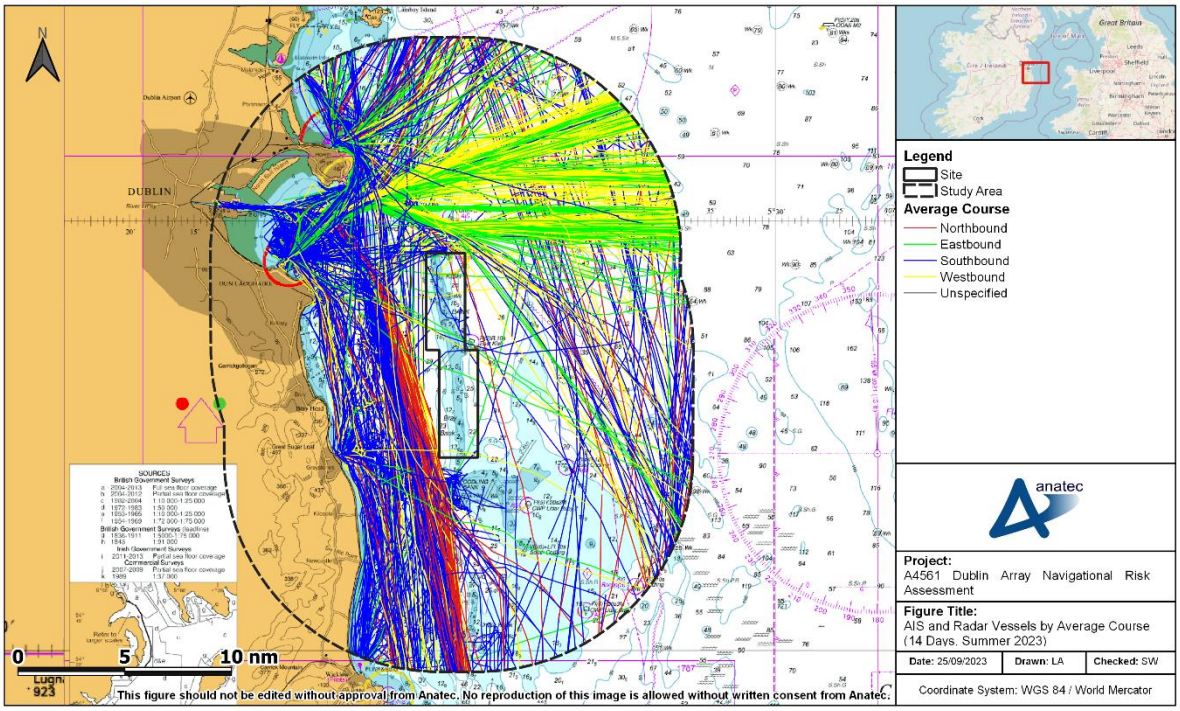

Figure 3.8 AIS and Radar Vessels by Average Course (14 Days, Summer 2023)

Eastbound and Westbound traffic occurred at approximately 24% and 26% respectively. There was a sizeable difference between north and south routeing traffic, with 44% of vessels travelling southbound, whilst only 7% were heading north. Southbound traffic was observed to include the majority of recreational traffic.

3.5 Vessel Speed

Figure 3.9 shows the AIS and Radar tracks recorded within the study area during the survey period, colour coded by average speed.

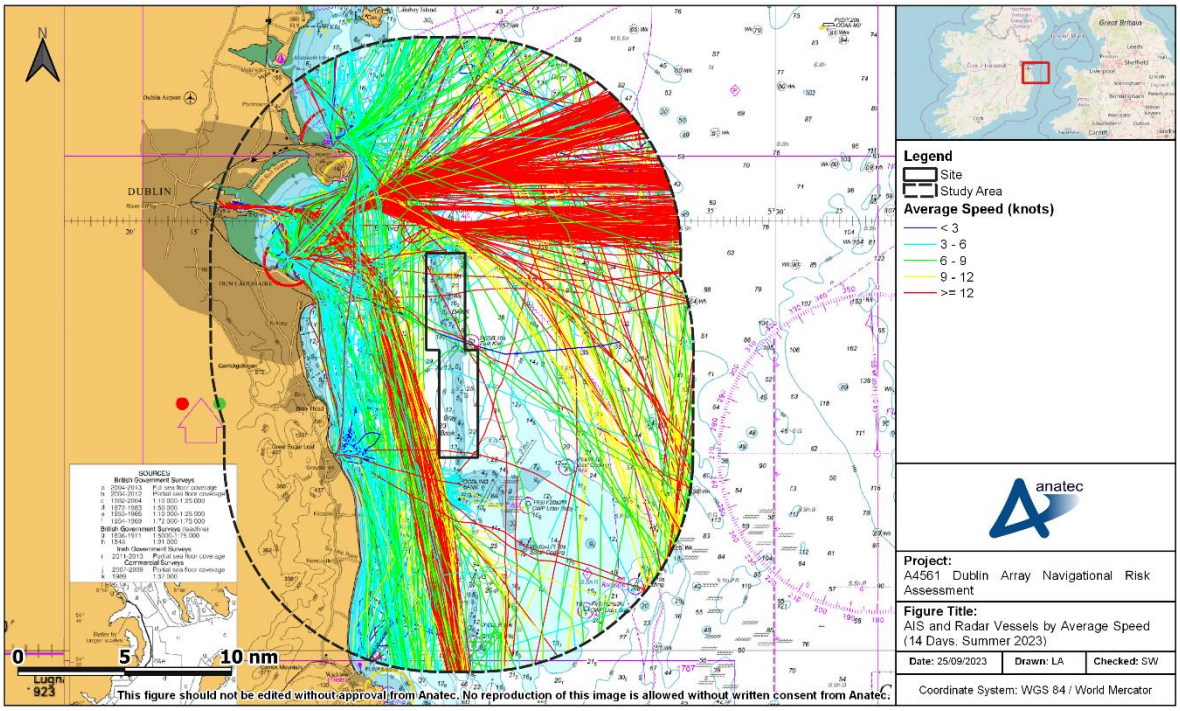

Figure 3.9 AIS and Radar Vessels by Average Speed (14 Days, Summer 2023)

Vessels transiting at lower speeds (<3 knots) were primarily observed near the coast in areas such around Greystones, Dun Laoghaire, Dublin, Wicklow, and Howth. Faster transiting vessels were observed passing north/south to the west of the site, as well as east/west to the north of the site.

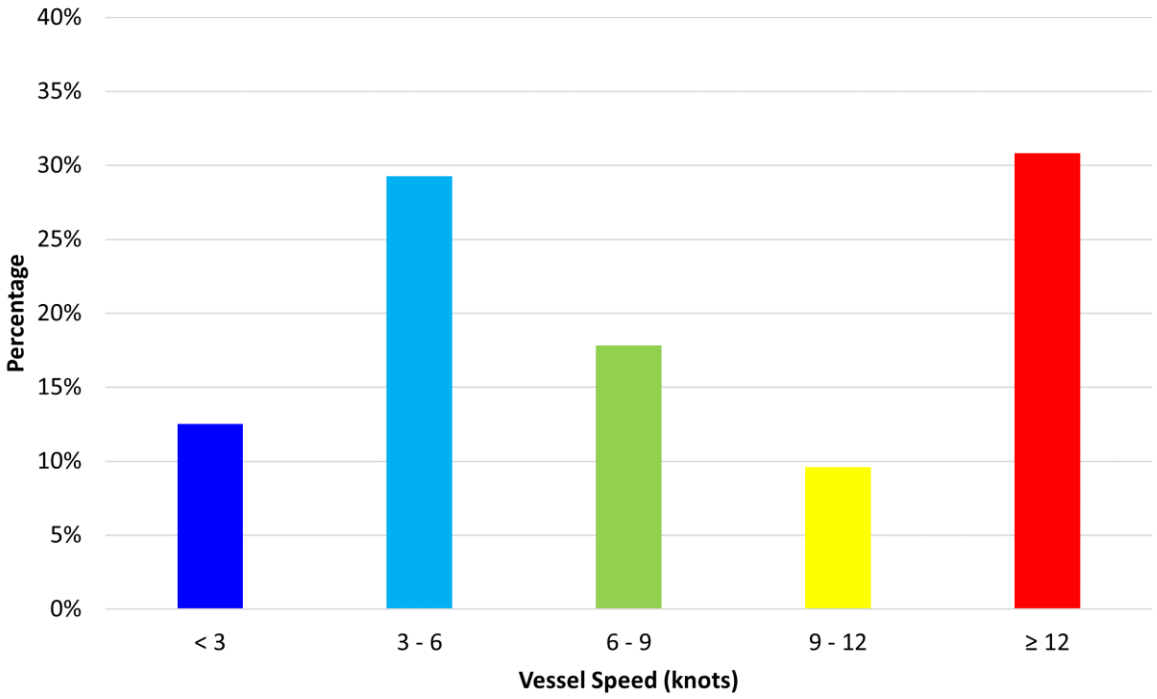

Figure 3.10 Distribution of AIS and Radar Vessel Average Speed (14 Days, Summer 2023)

The overall average speed recorded within the study area during the survey period was 9.3 knots. The most common speeds were above 12 knots (31%), closely followed by between 3 and 6 knots (29%). The vessel which was recorded transiting the fastest was the recreational vessel *Little Lee* which was observed to cross the site towards Dun Laoghaire at 34.3 knots.

3.6 Vessel Destinations

Figure 3.11 presents the distribution of the most popular destinations recorded within the study area during the survey period. It is noted that roughly 48% of traffic did not broadcast a valid destination and were thus removed from the analysis in Figure 3.11.

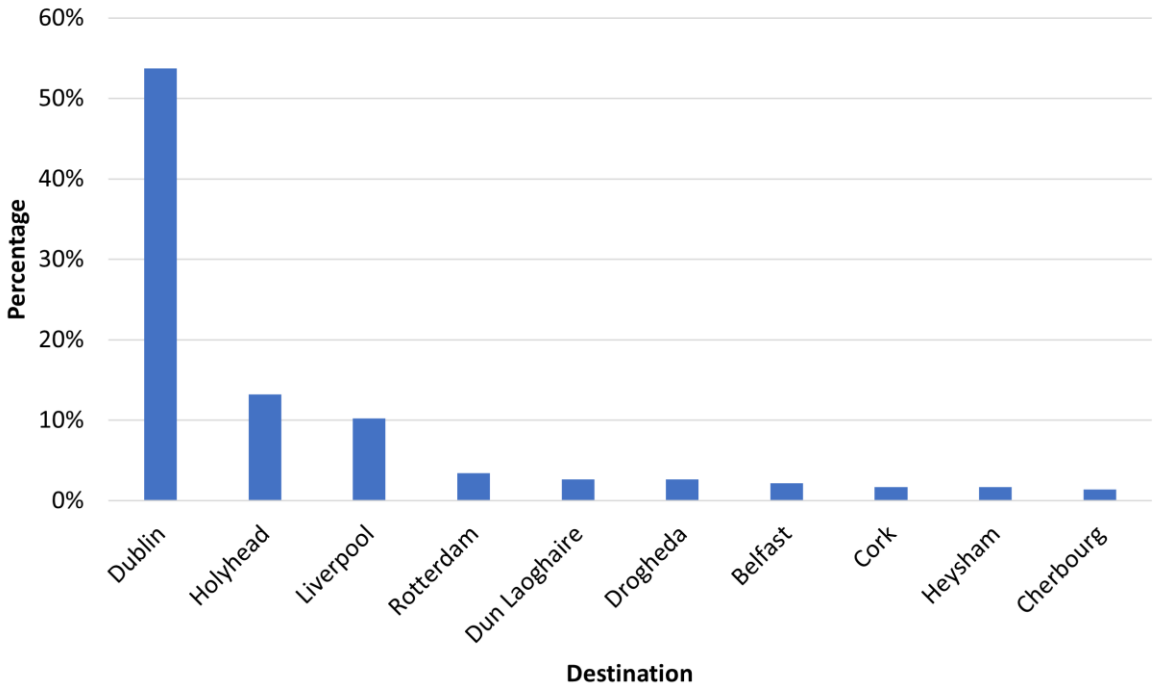

Figure 3.11 Distribution of Popular Destinations (14 Days, Summer 2023)

The most popular destination broadcast by vessels during the survey was Dublin at 54%. This was followed by Holyhead (UK) (13%) and Liverpool (UK) (10%). All other destinations made up less than 5% of the total valid destinations broadcast.

3.7 Vessels within 1nm of the Site

Figure 3.12 presents the AIS and Radar tracks of vessels which came within 1nm of the site boundary during the survey period, colour-coded by vessel type. The majority of vessels within 1nm were recorded on AIS (98%).

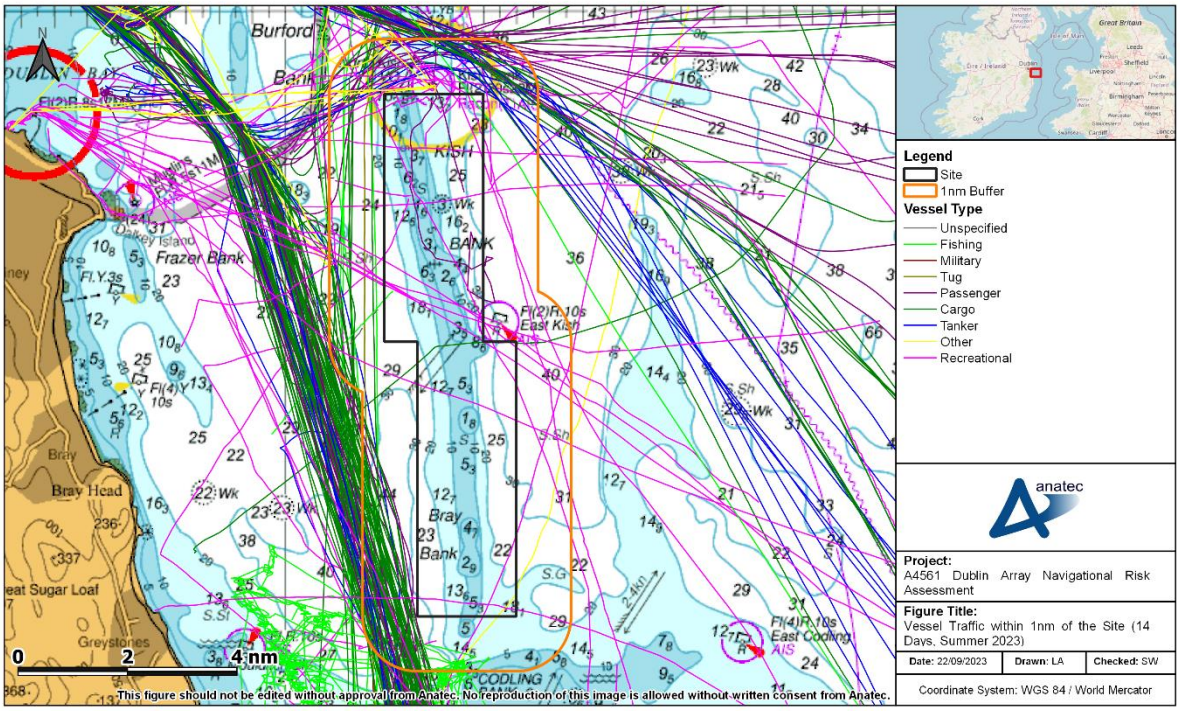

Figure 3.12 Vessel Traffic within 1nm of the Site (14 Days, Summer 2023)

A busy north/south route passes within 1nm to the west of the site, predominantly comprised of cargo vessels, passenger vessels, and tankers. An average of 13 unique vessels passed within 1nm of the site during the survey period, with an average of between one a two vessels per day intersecting the site itself. The majority of vessels intersecting the site being recreational (78%).

Figure 3.13 shows the distribution of vessel types that were recorded within 1nm of the site during the survey period. Unspecified types were excluded.

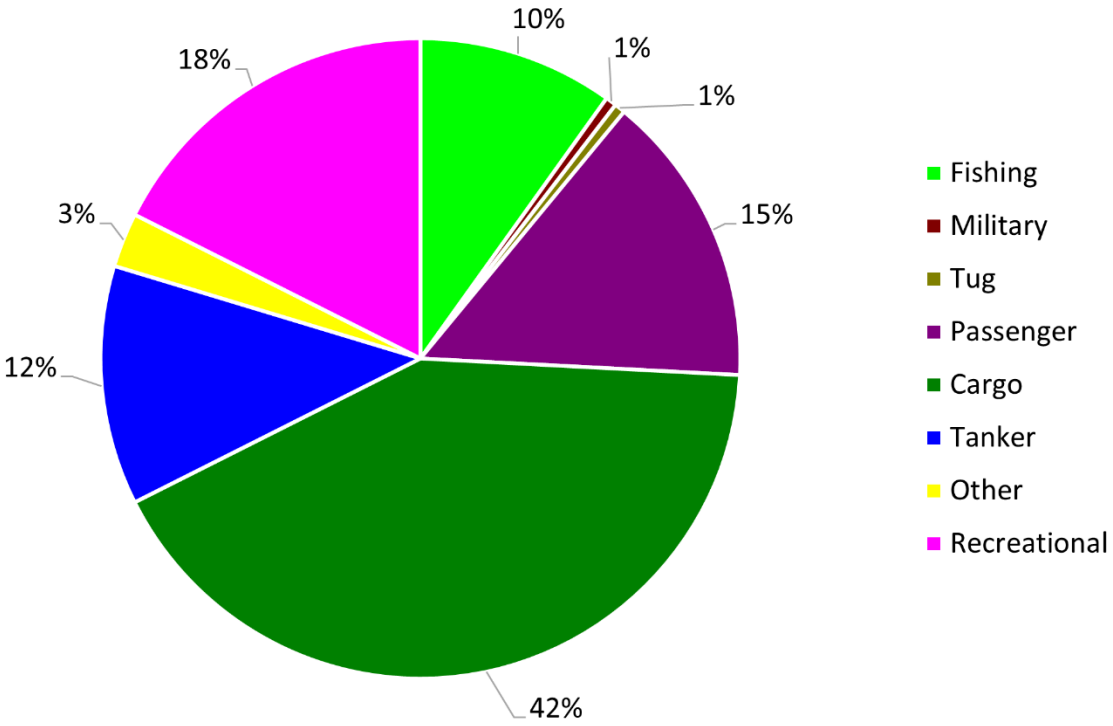

Figure 3.13 Distribution of Vessel Types within 1nm of the Site (14 Days, Summer 2023)

Cargo vessels were the most common vessel type within 1nm of the site boundary at 42%. Followed by recreational vessels (18%), Ro-Pax ferries and cruise liners (15%), tankers (12%) and fishing vessels (10%).

3.8 Anchored Vessels

Anchored vessels were identified by using a combination of vessel navigation status broadcast via AIS, as well as analysis of vessel speed and behaviour. Tracks of vessels deemed to be at anchor are presented in Figure 3.14, colour-coded by vessel type. Figure 3.15 then presents a detailed overview of anchored tracks.

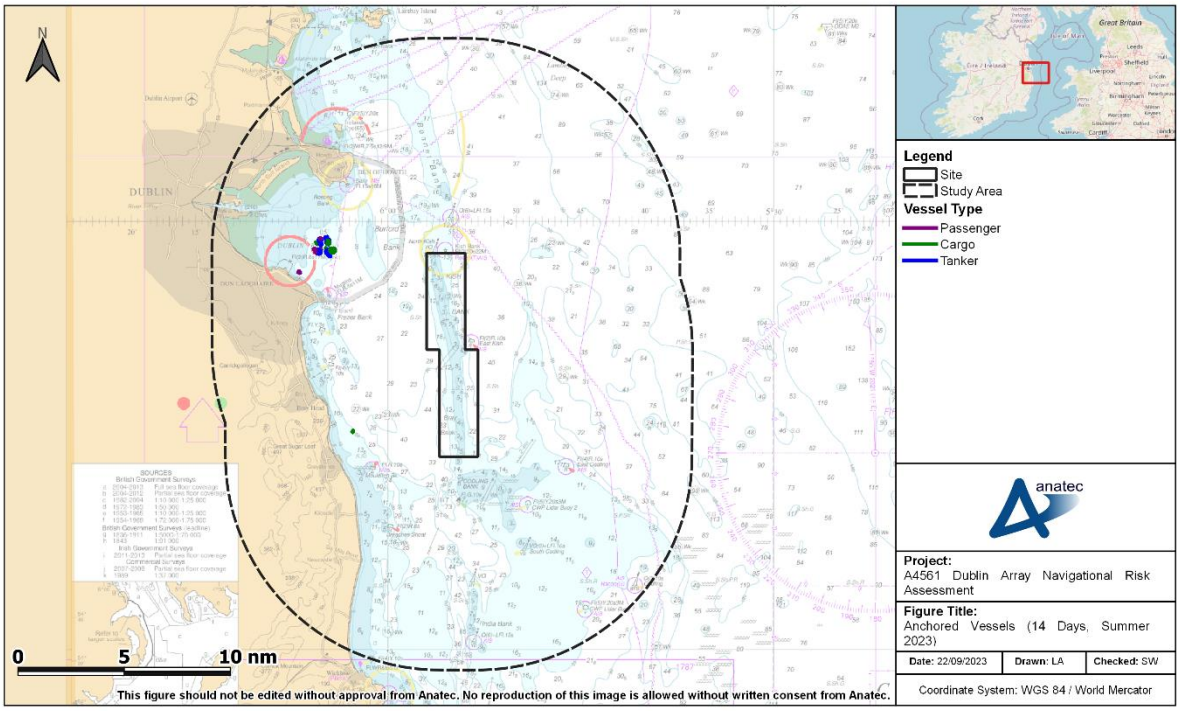

Figure 3.14 Anchored Vessels (14 Days, Summer 2023)

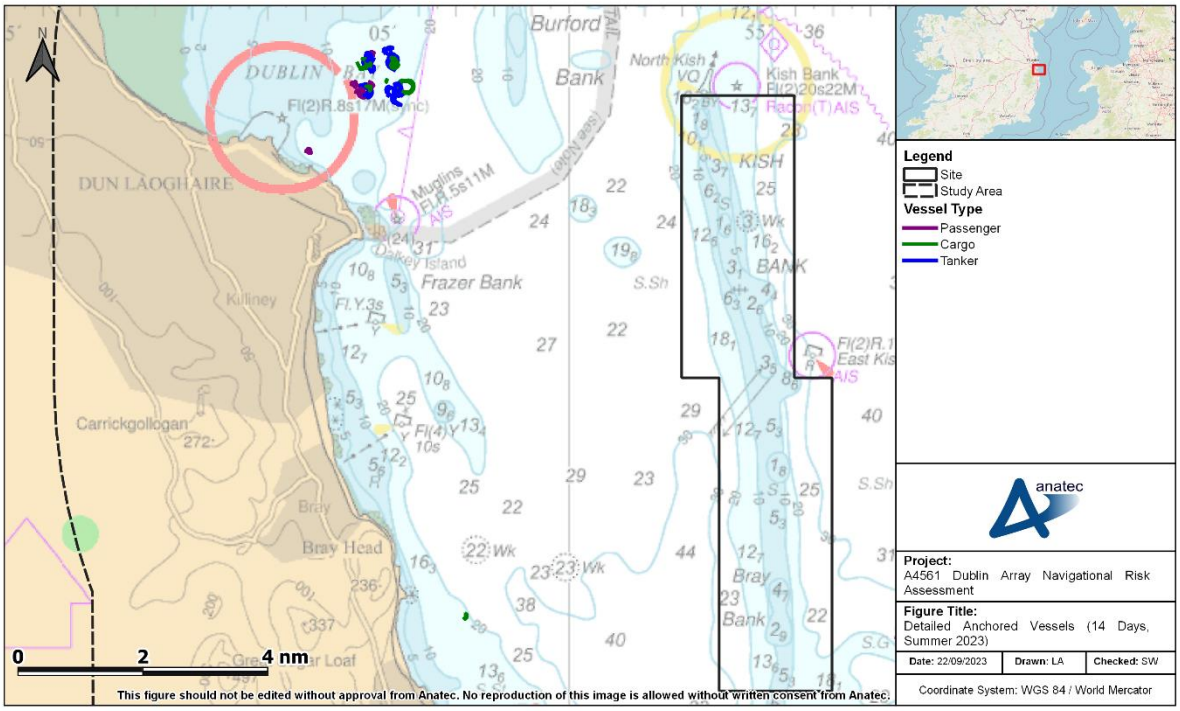

Figure 3.15 Detailed Anchored Vessels (14 Days, Summer 2023)

The majority of anchored vessels were seen to be within Dublin Bay. There were two vessels recorded anchoring outwith the bay; a passenger vessel in Scotsman's Bay and a cargo vessel roughly 1.2nm northeast of Greystones Marina. 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 to anchor further to the south. Cargo vessels were the most commonly observed to be anchoring (38%), followed by tankers (36%) and passenger vessels (25%). There was a total of 55 unique instances of anchoring recorded during the survey period, corresponding to an average of four unique vessels anchoring per day of the survey.

4 Detailed Review by Vessel Type

This section presents further details on the most common vessel types recorded within the study area during the survey period.

4.1 Recreational

Figure 4.1 presents the AIS and Radar tracks of recreational vessels recorded within the study area during the survey period. Roughly 2% of recreational vessels were recorded via Radar.

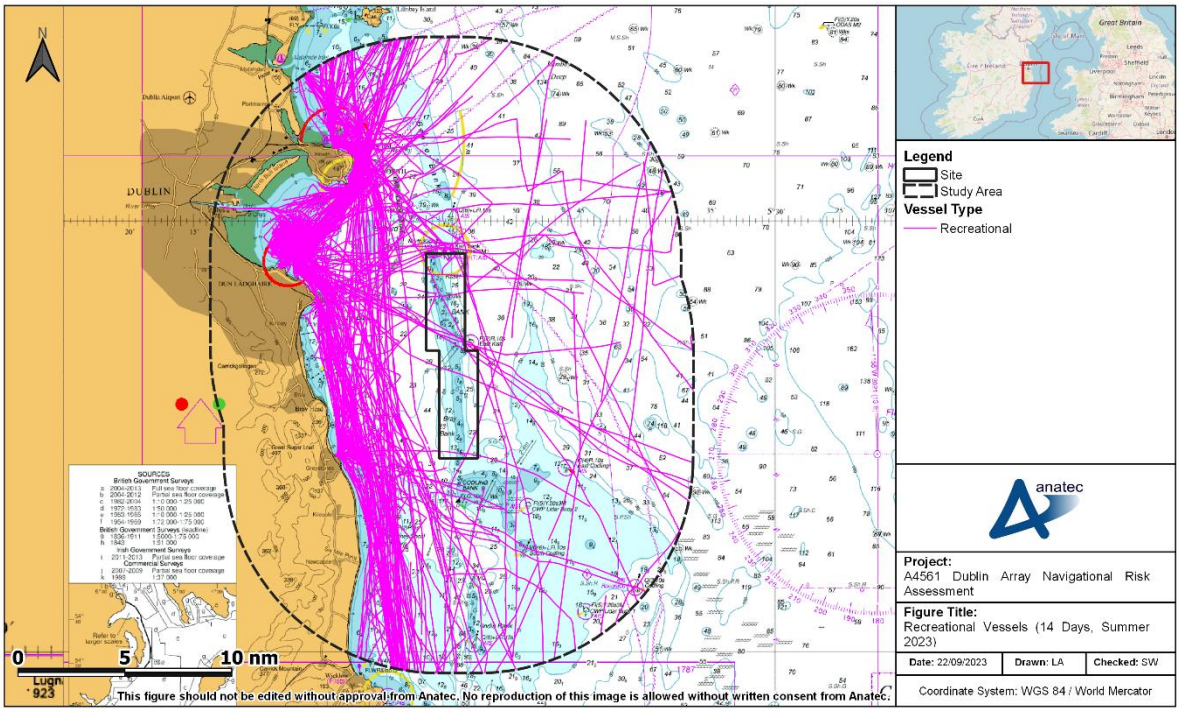

Figure 4.1 Recreational Vessels (14 Days, Summer 2023)

Recreational vessels were primarily seen along the coast with sporadic activity across the study area. There was an average of 29 recreational vessels recorded per day of the survey.

4.2 Cargo

Figure 4.2 shows the AIS tracks of cargo vessels recorded within the study area during the survey period. All were recorded via AIS.

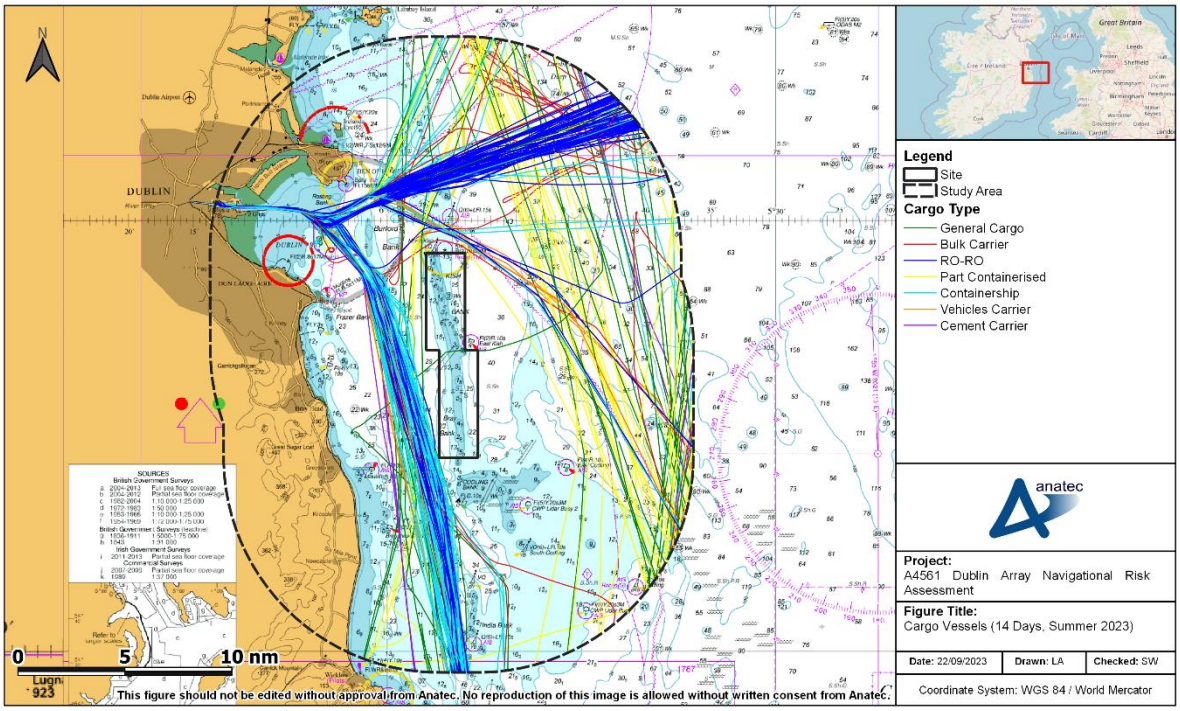

Figure 4.2 Cargo Vessels (14 Days, Summer 2023)

Cargo vessels were most prominent on routes to/from Dublin passing west and north of the site. The most commonly reported destinations for cargo vessels were Dublin (44%), Liverpool (UK) (13%) and Rotterdam (Netherlands) (6%). There was an average of 19 cargo vessels recorded per day of the survey.

The most commonly recorded cargo vessels were containerships (29%), Roll-on/Roll-off (Ro-Ro) (26%), part containerised vessels (18%) and general cargo (15%). Other cargo types included bulk carriers (7%), cement carriers (3%), and vehicle carriers (3%).

It is noted that there are several commercial Ro-Ro routes within the study area, the main operators being Seatruck and CLdN.

4.3 Passenger

Figure 4.3 presents the AIS tracks of passenger vessels recorded within the study area during the survey period. All were recorded on AIS.

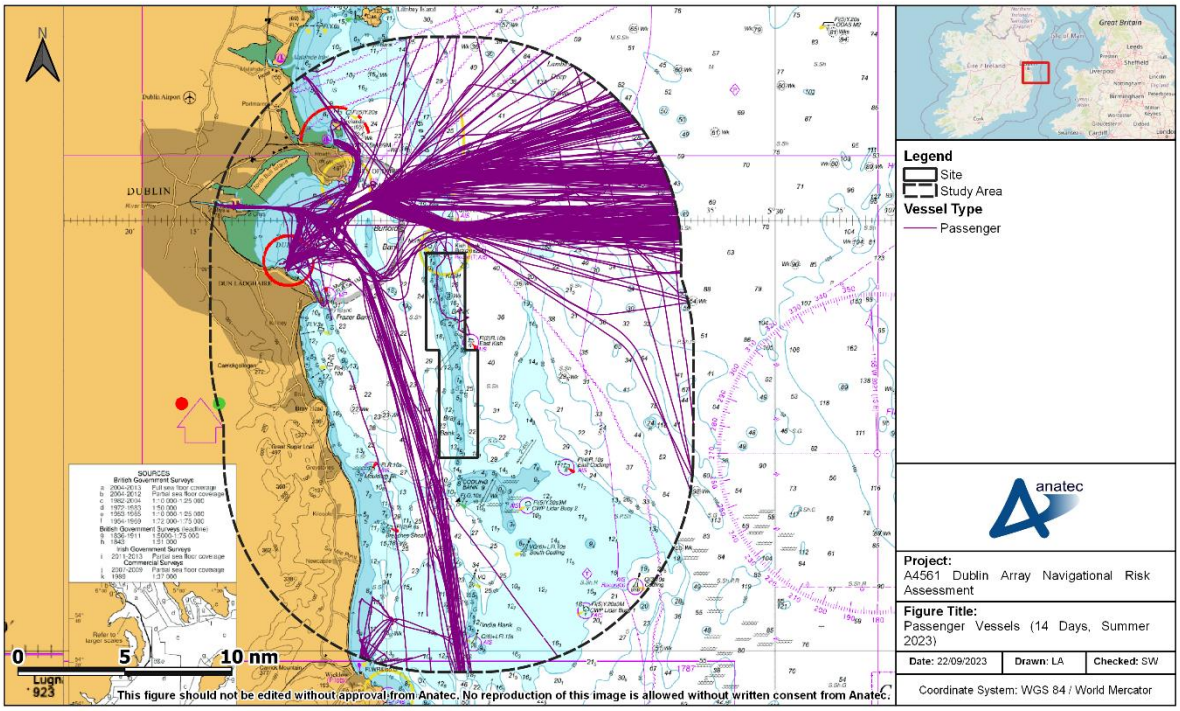

Figure 4.3 Passenger Vessels (14 Days, Summer 2023)

Passenger vessels were predominantly recorded passing north of the site, with 34% routeing between Holyhead (UK) and Dublin. Liverpool (UK) and Cherbourg (France) were also notable destinations. There was an overall average of 12 passenger vessels recorded per day of the survey.

Key operators are Irish Ferries, Stena Line and P&O, which run passenger ferry services between Dublin and UK locations on a regular route and timetable. Viking Cruises, Dublin Bay Cruises, and Princess Cruises are also prevalent operators within the study area, offering trips within the local area or aboard luxury cruise liners.

4.4 Fishing

Figure 4.4 presents the AIS and Radar tracks of fishing vessels recorded within the study area during the survey period, colour coded by speed. Roughly 3% of fishing tracks were recorded via Radar. As a general rule, vessels which record speeds of over 6 knots are assumed to be transiting, whereas those travelling at below 6 knots have potential to be actively fishing.

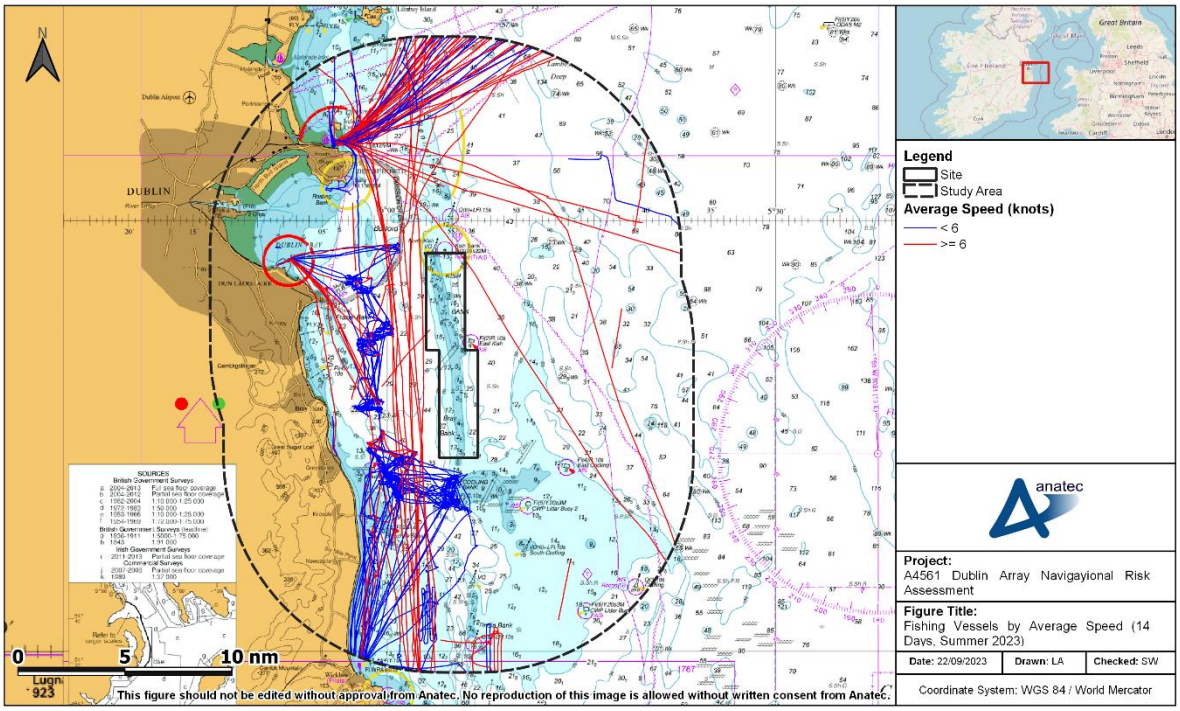

Figure 4.4 Fishing Vessels by Average Speed (14 Days, Summer 2023)

There was an overall average of between eight and nine fishing vessels recorded per day of the survey. Approximately 43% of fishing vessels were recorded transiting below 6 knots, which indicates a potential for active fishing. Based on vessel speed and behaviour, vessels estimated to be actively fishing were mostly seen around the coast to the west and south of the site, and are observed routeing to/from Dun Laoghaire or near Wicklow.

5 Summary

This report presents analysis of 14 days of AIS, Radar data in Summer 2023 within 10nm of the Dublin Array. The survey was carried out from Baily Lighthouse from 10:30 UTC on the 17th of August to 10:30 UTC on the 31st of August 2023, 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 recreational vessels (36%), cargo vessels (24%), and passenger vessels (15%).

An average of 81 unique vessels per day were recorded transiting through the study area during the survey period. The busiest day during the survey period was the 26th of August 2023 on which 112 unique vessels were recorded. The quietist full day during the survey period was the 19th of August 2023, on which 37 unique vessels were recorded.

The average length of vessels recorded within the study area during the survey period was 74m. The average draught of vessels recorded within the study area during the survey period was 5.2m. The average speed of vessels recorded within the study area during the survey period was 9.3kt.

The most common destinations for vessels recorded within the study area during the survey period were Dublin (54%), Holyhead (UK) (13%), and Rotterdam (Netherlands) (3%). Vessels predominantly transited in a southbound direction in the study area during the survey period.

There were, on average, 13 unique vessels per day passing within 1nm of the site during the survey period, with the majority of vessels passing through the site itself being recreational vessels (78%).

There was an average of 29 unique recreational vessels recorded within the study area per day of the survey.

An average of 19 unique cargo vessels were recorded with containerships and Ro-Ro vessels being most common at 29% and 26% respectively. The most common destination for cargo vessels was Dublin (44%).

There were 55 unique instances of vessels anchoring within the study area during the survey period, comprised of cargo vessels (38%), tankers (36%), and passenger vessels (25%). 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.