AQUIND Limited

AQUIND INTERCONNECTOR

Environmental Statement Addendum 3 – Appendix 4.4 AIS Data Validation Study

The Planning Act 2008

The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009 – Regulation 5(2)(a)

The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017

Document Ref: 7.8.3.10

PINS Ref.: EN020022

AQUIND Limited

AQUIND INTERCONNECTOR

Environmental Statement Addendum 3 – Appendix 4.4 AIS Data Validation Study

PINS REF.: EN020022

DOCUMENT: 7.8.3.10

DATE: APRIL 2023

WSP

WSP House

70 Chancery Lane

London

WC2A 1AF

+44 20 7314 5000

www.wsp.com

AQUIND AIS Data Validation

1 Introduction

The primary source of shipping data used for the impact assessment undertaken for the Shipping, Navigation and Other Marine Users (Chapter 13) of the AQUIND Interconnector Environmental Statement (ES) Volume 1 was six months of Automatic Identification System (AIS) data from the following periods to cover seasonal variation.

- 1 December 2017 to 28 February 2018
- 1 May 2018 to 31 July 2018

As this data is almost five years old, a comparison has been carried out using two months of recent AIS data from July 2022 and January 2023 to identify any significant changes in key shipping activities that may be impacted by the AQUIND Interconnector.

This note presents a summary of the findings.

2 Data Validation

2.1 Vessel Count

The average number of unique MMSIs (i.e., unique vessels) recorded per day[1] in each month is presented in Table 2.1.

Table 2.1   Vessel Count Comparison

Month	Average Vessels per Day
January 2018	294
January 2023	275
July 2018	463
July 2022	487

The overall average vessels per day for the two-month periods was very similar with 379 for the 2018 two-month period and 381 for the 2022/23 two-month period. The average number of vessels per day during January was higher during 2018 than 2023 but, during July, the average vessels per day was lower in 2018.

2.2 Vessel Type

Figure 2.1 and Figure 2.2 present AIS tracks for the 2018 and 2022/2023 datasets within the study area, colour-coded by vessel type.

---

[1] i.e., multiple tracks per day for the same vessel were only counted once.
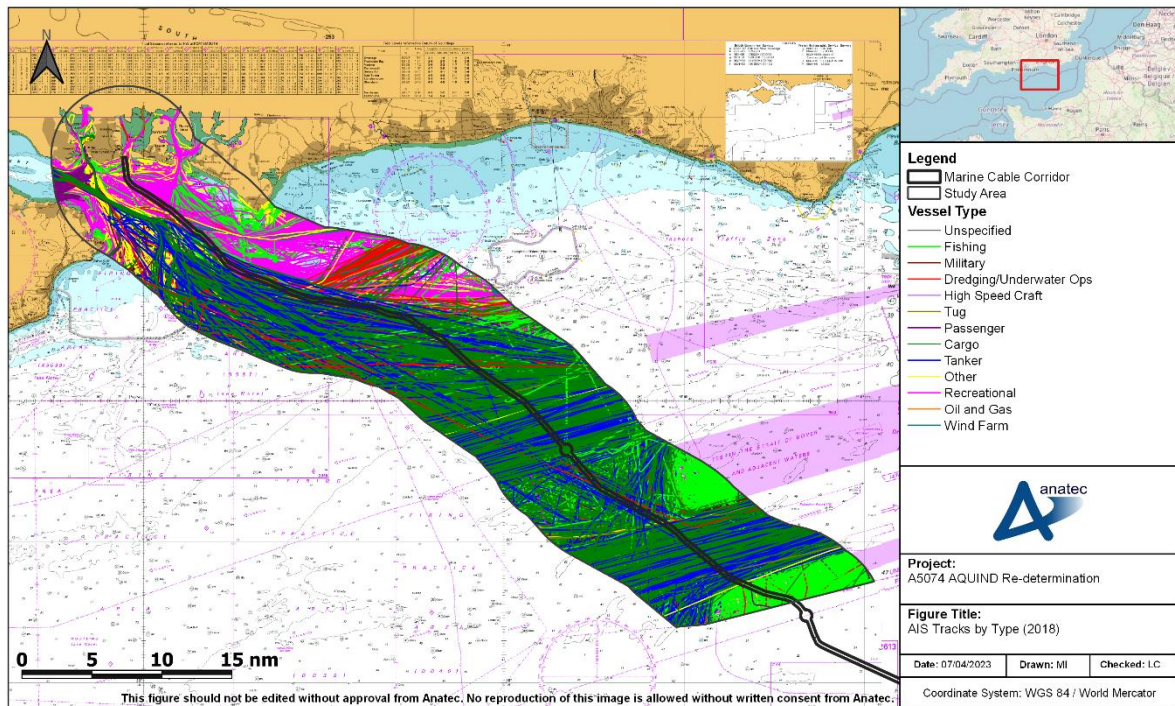
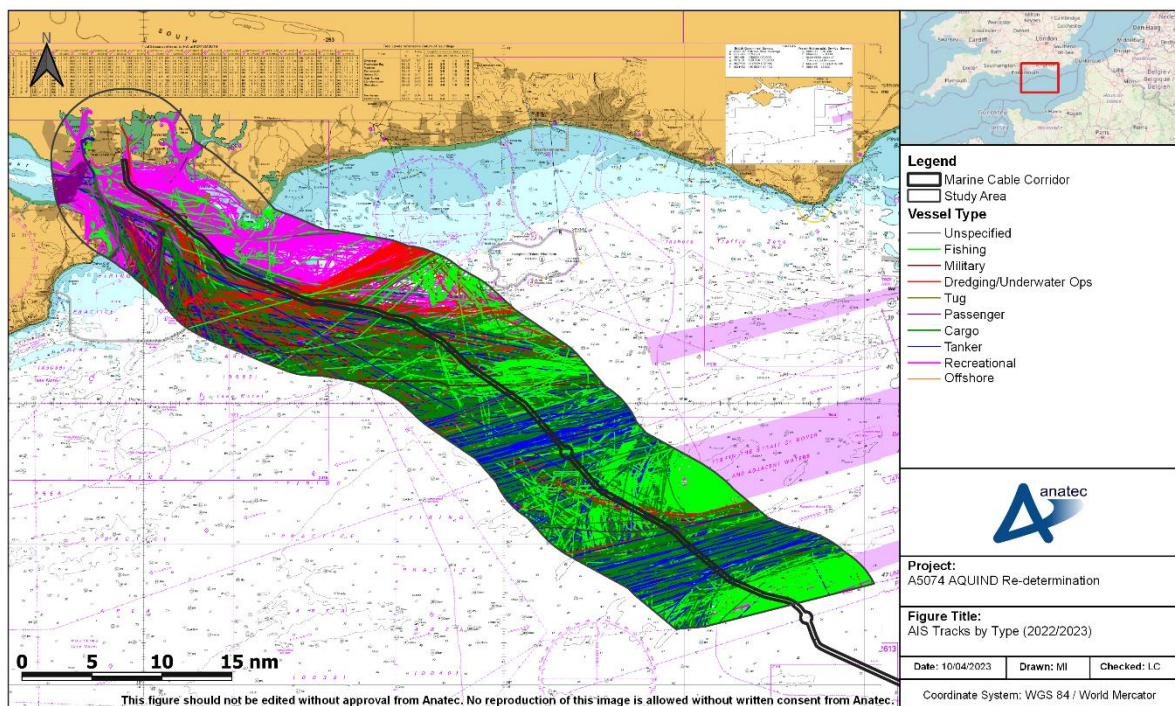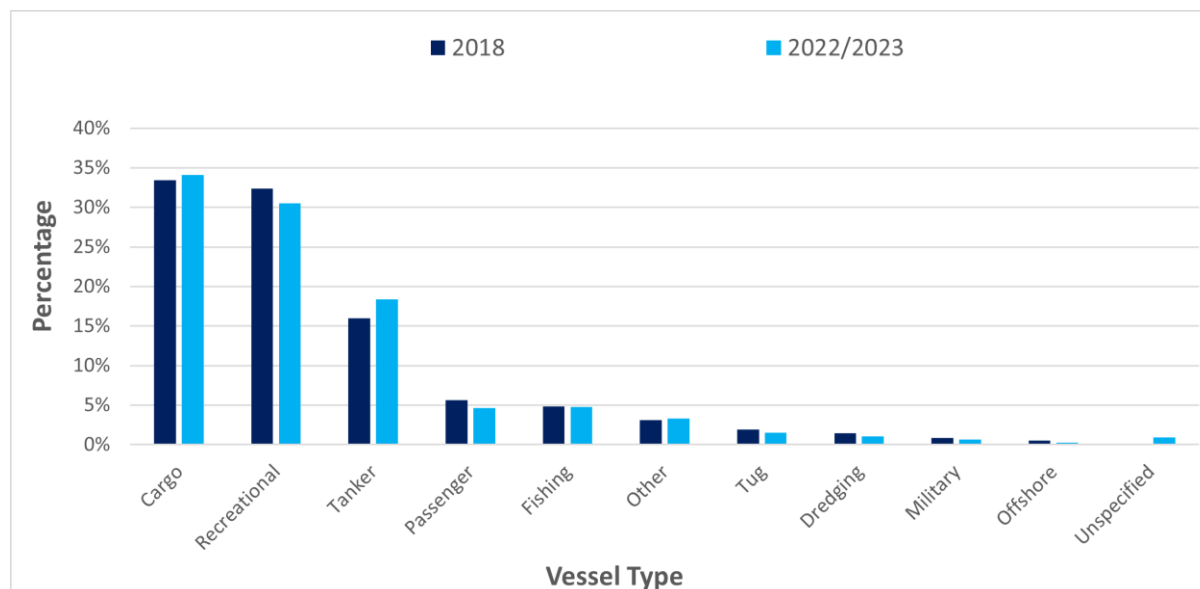**Figure 2.1   AIS Tracks by Type (2018)**

Figure 2.2   AIS Tracks by Type (2022/2023)

It is seen that the distribution of vessel traffic across the AQUIND Interconnector route appears similar.

The percentage of vessel tracks for each vessel type for the two-month period is presented in Figure 2.3.

Figure 2.3   Vessel Type Comparison 2018 - 2022/2023

The distribution of vessel types was consistent in both datasets, with a slight increase in tankers and cargo vessels in 2022/2023, while recreational and passenger vessel contributions were slightly lower. Unspecified vessels accounted for less than 1% of the overall distribution in both datasets.

2.3   Vessel Size

Table 2.2 shows the average and maximum vessel length, draught, and Dead Weight Tonnage (DWT) for the 2018 and 2022/2023 datasets, excluding unspecified.

Table 2.2   Vessel Length, Draught and DWT (2018 vs. 2022/2023)

	2018		2022/2023	
	Average	**Maximum**	**Average**	**Maximum**
Vessel Length (m)	99	400	113	400
Vessel Draught (m)	6.6	22	6.7	21.5
Dead Weight Tonnage (DWT)	17,076	218,000	36,863	370,207

The vessel lengths recorded in the 2022/2023 dataset were larger in comparison to the 2018 dataset for the two-month periods analysed. The vessel draughts were comparable in both datasets. Vessels in 2022/2023 had higher DWTs, most likely due to an increase in the number of tankers and cargo vessels in the 2022/2023 dataset.

2.4   Vessel Density

The density grids for the 2018 and 2022/2023 datasets are presented in Figure 2.4 and Figure 2.5, respectively. They present a vessel density heat map based upon the number of AIS tracks intersecting 1km x 1km grid cells.
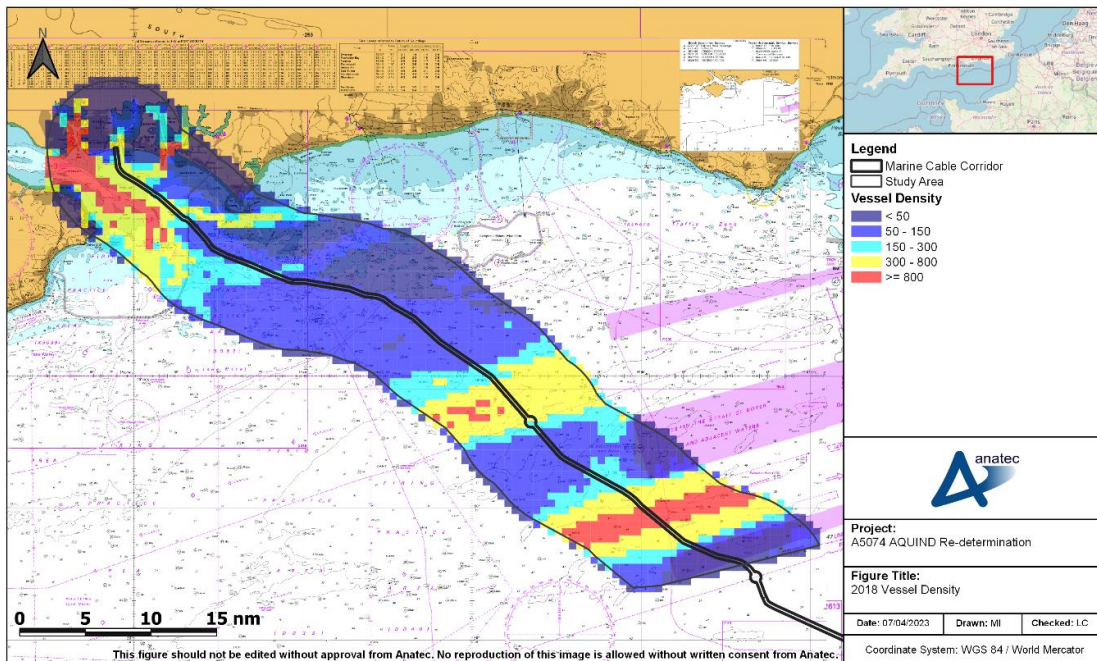
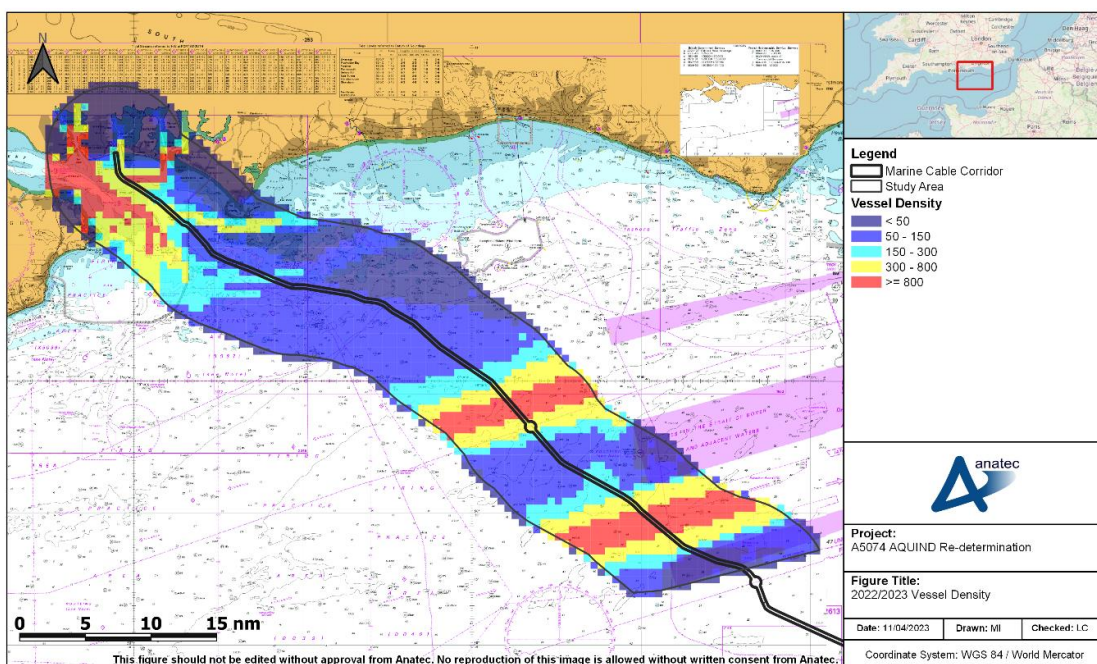**Figure 2.4   Vessel Density (2018)**

Figure 2.5   Vessel Density (2022/2023)

It can be seen that the areas of high and low density were consistent across both periods, with the 2022/23 data showing a slightly higher overall density than the 2018 data. In particular, high density areas were associated with vessels using the Dover Strait TSS and vessels approaching the ports of Southampton and Portsmouth.

2.5 Anchoring Activity

Figure 2.6 and Figure 2.7 present the tracks of all vessels at anchor[2] within the study area for the 2018 and 2022/2023 datasets, colour-coded by vessel type.
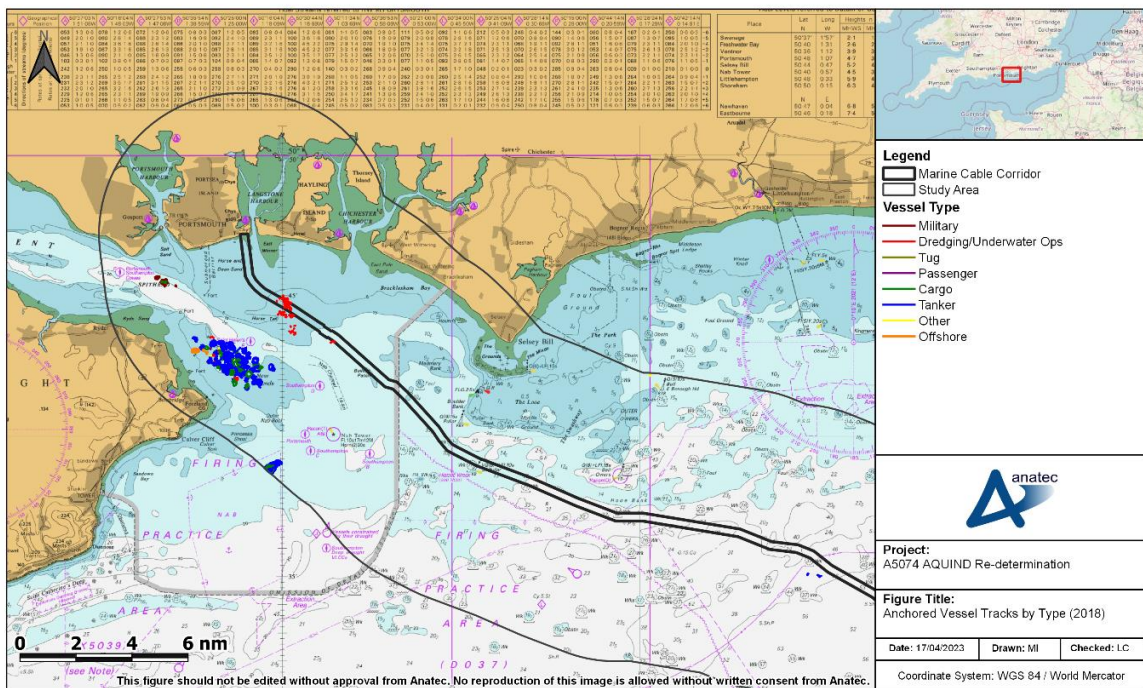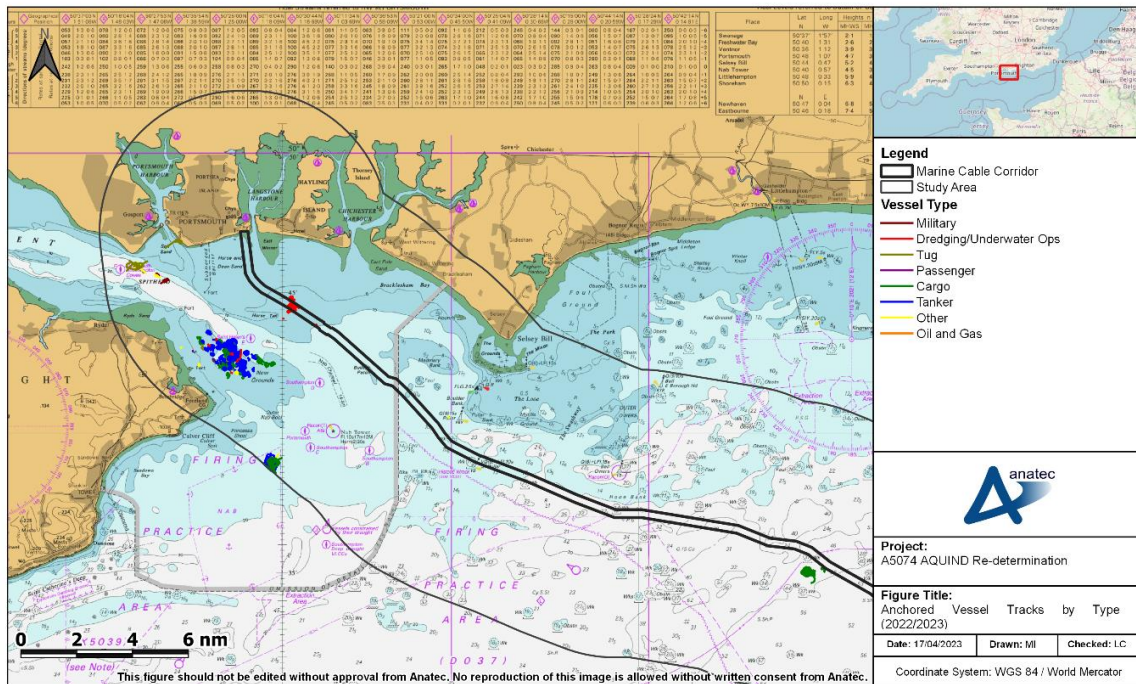

Figure 2.6 Anchored Vessels by Type – 2018

---

[2] Based on navigational status 'at anchor', with any tracks that are clearly not anchored vessels removed

**Figure 2.7 Anchored Vessels by Type - 2022/2023**

The majority of anchoring activity recorded in both datasets within the study area was associated with the Saint Helen's Road anchorage located south of the Marine Cable Corridor. Vessels at anchor were awaiting entrance to ports such as Fawley, Southampton and Portsmouth.

There was a 20% decrease in daily unique vessel tracks recorded at anchor (based on navigation status) in the 2022/2023 dataset. Tankers were the most common vessel type recorded at anchor in both datasets, within the study area.
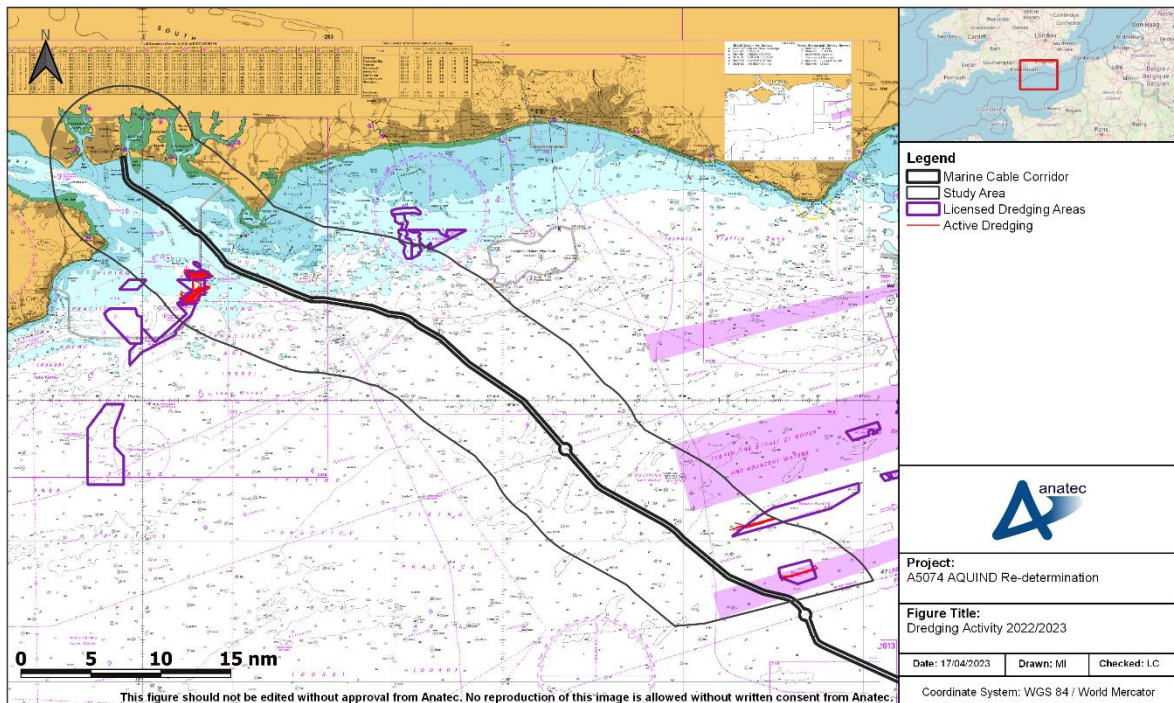
2.6 Dredging Activity

Figure 2.8 to Figure 2.9 present the estimated active dredging recorded in the study area for the 2018 and 2022/2023 datasets. Estimations were based on behaviour, navigation status, destination and speed of tracks.
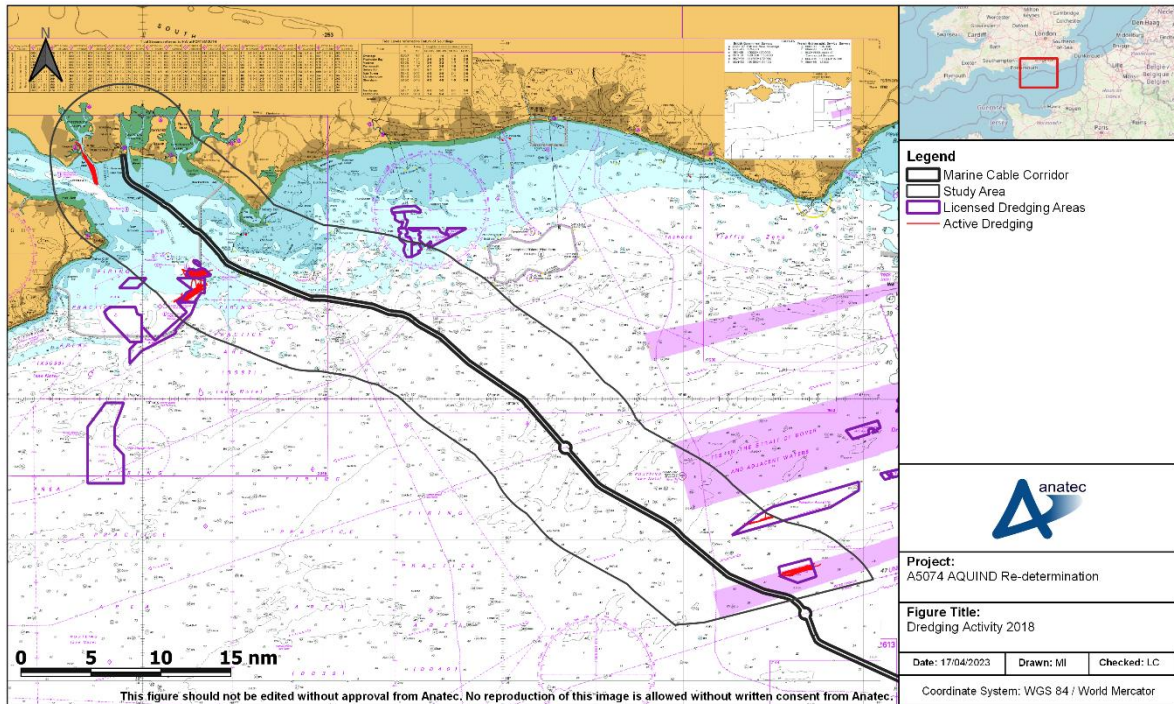
Figure 2.8   Dredging Activity 2018

Figure 2.9   Dredging Activity 2022/2023

It is noted that the majority of dredgers recorded in both datasets were transiting through the study area and thus have not been included in the above figures. There was some

dredging activity recorded in the 2018 dataset near the entrance of Portsmouth Harbour, which was not the case in the 2022/2023 dataset. Dredging activity recorded in proximity to the licensed dredging areas was consistent in both datasets.

Dredging activity was more prominent in 2018, as a 12% decrease in the daily unique vessel count was recorded in 2022/2023 dataset compared to 2018 for the two-month study period.

2.7 Fishing Activity

Figure 2.10 to Figure 2.11 present the AIS fishing tracks for the 2018 and 2022/2023 datasets within the study area, colour-coded by gear type. Following this, Figure 2.12 illustrates the distribution of gear types in the study area, based on daily unique vessel count in both datasets.
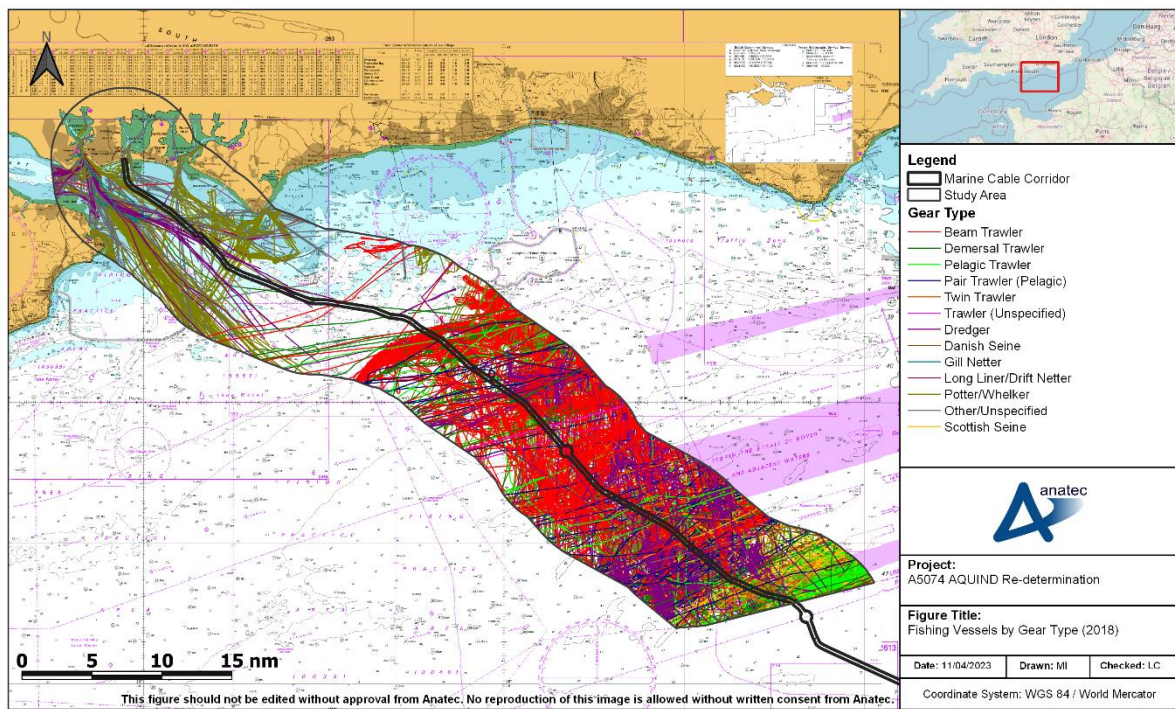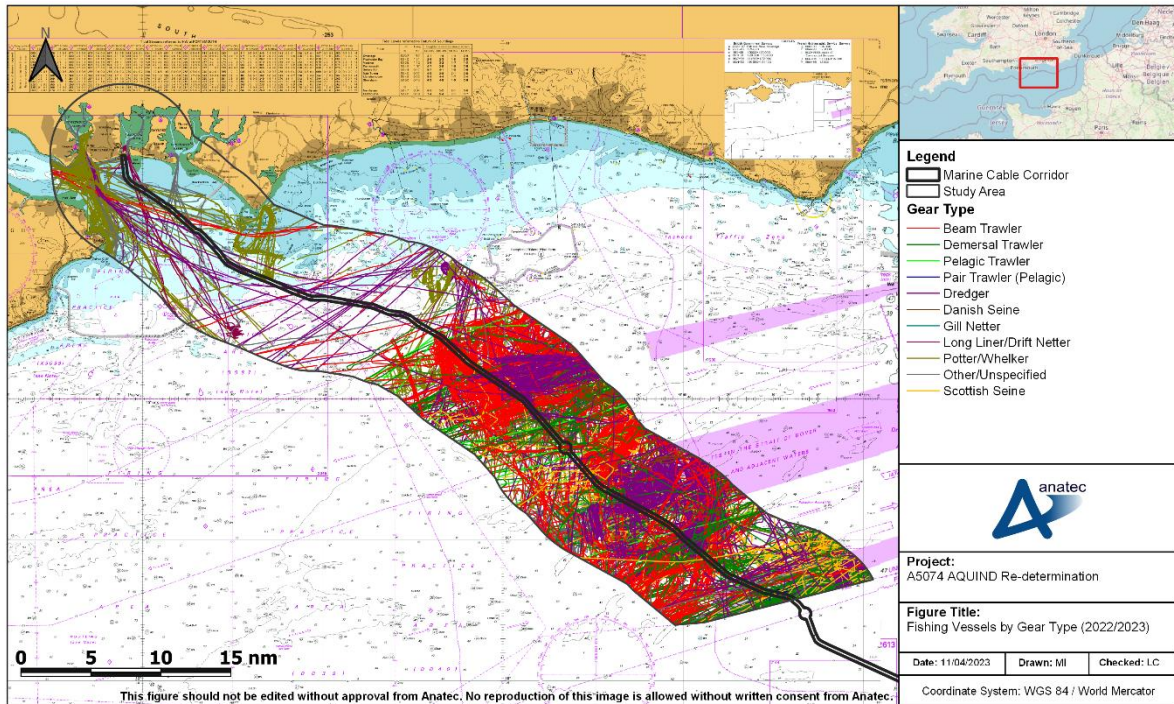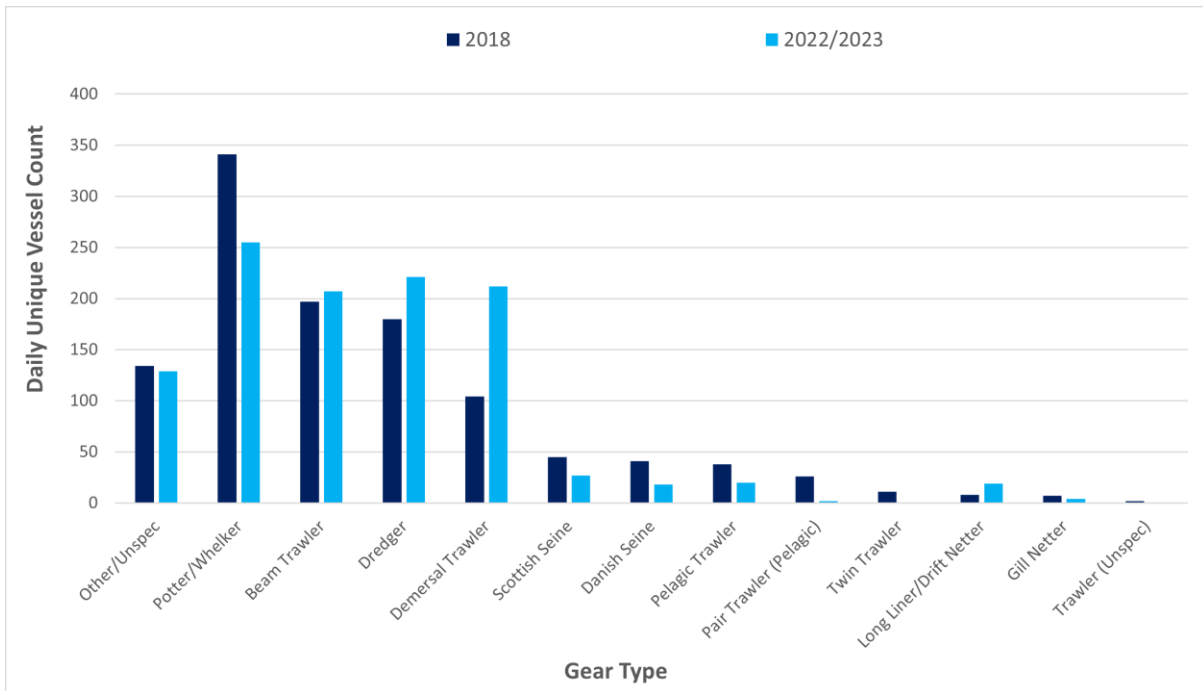

Figure 2.10   Fishing Vessels by Gear Type (2018)

Figure 2.11   Fishing Vessels by Gear Type (2022/2023)

Figure 2.12   Fishing Gear Type Count (2018 vs. 2022/2023)

In general, the areas where fishing activity was high remained fairly consistent between both datasets. Fishing vessel counts in both datasets were similar, with an average of eighteen

unique fishing vessels per day recorded in both datasets, however the distribution of gear types varied.

The most common gear type in both datasets was potters/whelkers, although there was a 25% reduction from 2018 to 2022/23. A slight increase was recorded in beam trawlers and dredgers in the 2022/2023 dataset. A notable 104% increase in demersal trawlers, and 138% increase was noted in long liners/drift netters in the 2022/2023 dataset. All other gear types observed a decrease in their counts in the 2022/2023 dataset for the same two-month period.

Overall, there was a 19% increase in vessels using mobile demersal gear types (beam trawlers, dredgers, demersal trawlers, Scottish and Danish seines, twin trawlers) from 2018 to 2022/23, based on the two-month data period analysed.

UK was the most frequent nationality in both datasets, followed by Belgium and France. It was noted that there were no Irish fishing vessels recorded in the 2018 dataset, while 2% of the nationality distribution in the 2022/2023 dataset contributed to Irish vessels.

The average length of fishing vessels increased slightly from 23m in 2018 to 24m in 2022/23.

2.8   Recreational Activity

Figure 2.13 and Figure 2.14 present the recreational vessel tracks for the 2018 and 2022/2023 datasets within the study area, colour-coded by vessel length.
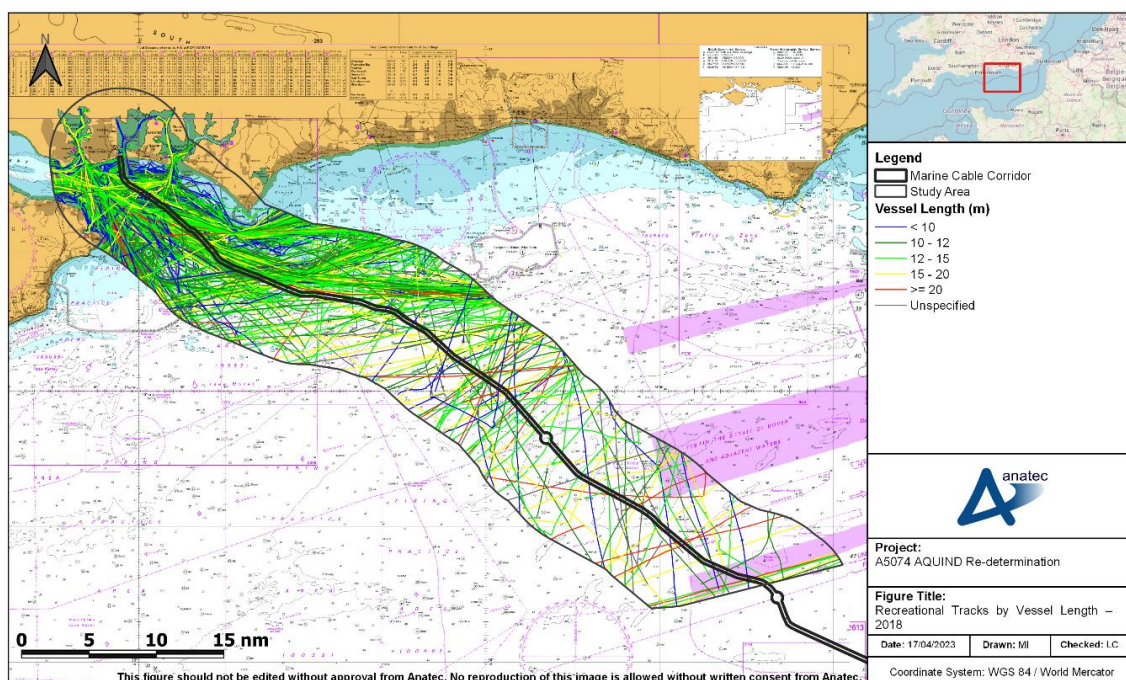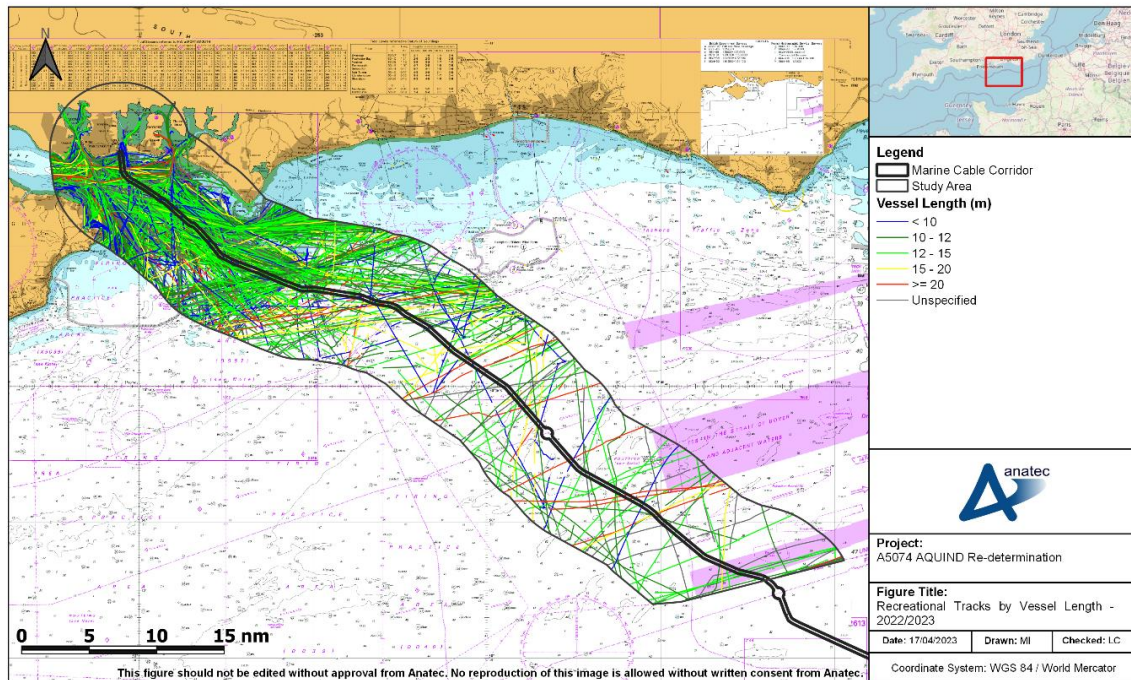

Figure 2.13   Recreational Tracks by Vessel Length – 2018

Figure 2.14   Recreational Tracks by Vessel Length - 2022/2023

Table 2.3 presents the average number of unique recreational vessels recorded in the study area for each month in both datasets.

Table 2.3   Average Daily Unique Vessel Count per Month

Month	Average Vessels per Day
January 2018	44
January 2023	15
July 2018	201
July 2022	218

There was a 67% decrease in the average daily unique vessel count in January 2023 compared to January 2018, while an 8.5% increase in July 2022 compared to July 2018. Overall, there was a 5% decrease in the daily unique vessel count in the 2022/2023 dataset compared to 2018 for the same two-month period.

The vessel lengths were comparable in both datasets, with an average length of 12m and maximum length of 24m.

2.9   Landfall

Figure 2.15 to Figure 2.16 present the AIS vessel tracks recorded in each dataset, close to the coast to detail the traffic occurring within close proximity to the landfall, colour-coded by vessel type.
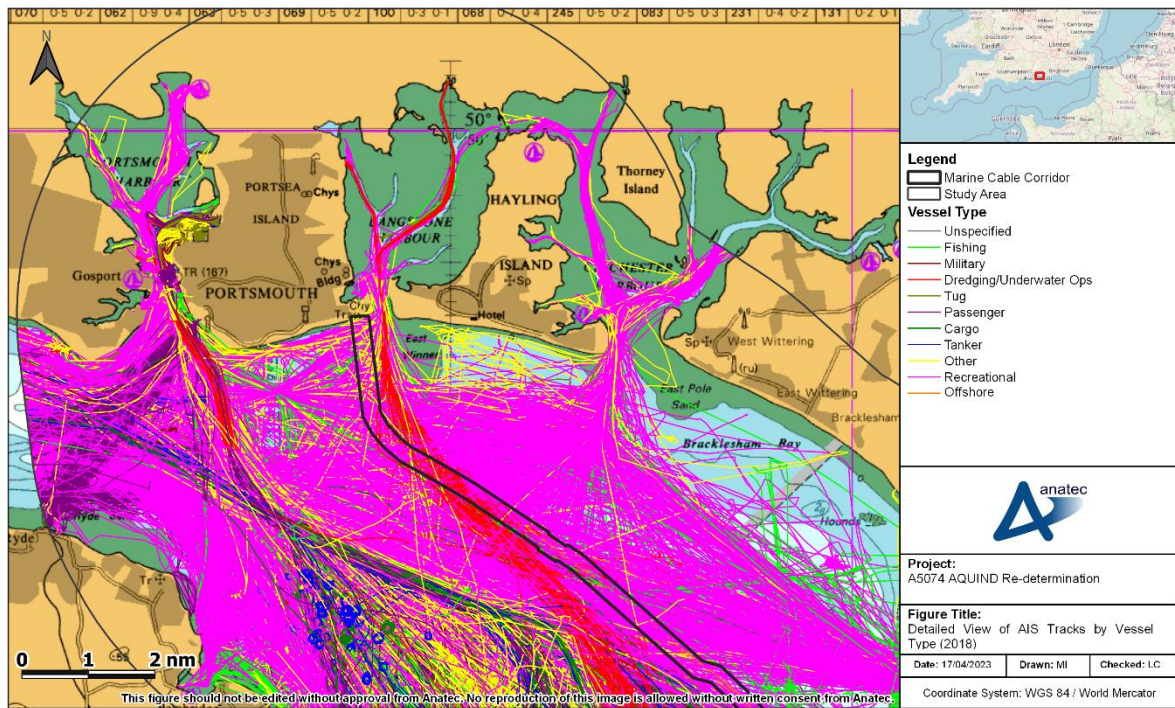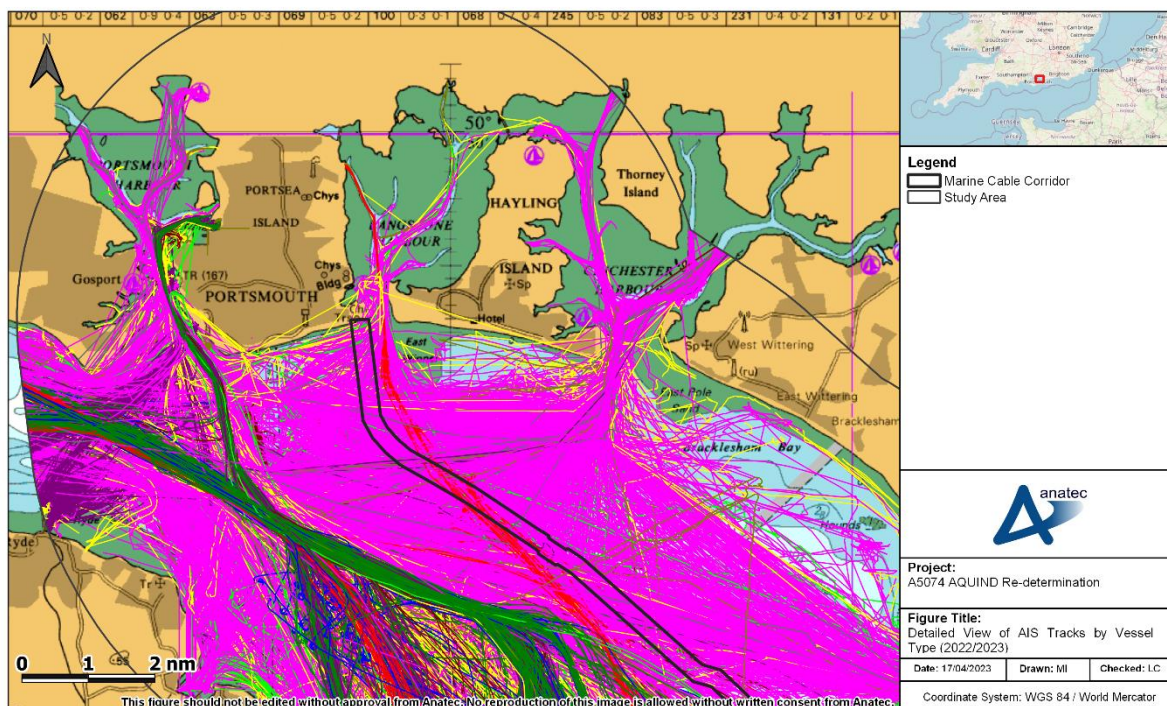

Figure 2.15   Detailed View of AIS Tracks by Vessel Type – 2018

Figure 2.16   **Detailed View of AIS Tracks by Vessel Type - 2022/2023**

The vessel tracks near landfall were comparable in terms of vessel types. It can be seen that the majority of activity crossing within proximity to the landfall was recreational craft, particularly in the summer months. In addition, several fishing vessels, small 'other' craft such as pilot vessels and lifeboats, and dredgers were seen close to the site of the proposed works. Cargo vessel tracks were more prominent in the 2022/2023 dataset, near landfall.

3   Conclusion

The overall findings of the data analysis for the two-month period datasets were similar, with both datasets showing comparable vessel type distributions. There was a 6% decrease in the average daily unique vessel count in January 2023 compared to January 2018, and a 5% increase in July 2022 compared to July 2018. The overall daily count was very comparable, with an average of 379 vessels per day during the 2018 two-month period and 381 during the 2022/23 two-month period.

The density grids for the two-month period for both datasets were similar, with the 2022/23 data showing a slightly higher density overall for the two-month period.

The vessel tracks recorded in the 2022/2023 dataset had higher DWTs and lengths compared to the 2018 dataset for the two-month period, likely due to the increased number of cargo vessels and tanker in the 2022/23 data. Vessel draughts were comparable in both datasets.

There was a 20% decrease in vessel tracks recorded at anchor (based on navigation status and track behaviour) in the 2022/2023 dataset. Locations of vessels at anchor were similar to the

2018 data and tankers were the most common vessel type recorded at anchor in both datasets.

Dredging activity was more prominent in 2018 with a 12% decrease in the daily unique vessel count recorded in 2022/2023 dataset for the two-month study period. There was some dredging activity recorded in the 2018 dataset near the entrance of Portsmouth Harbour, which was not the case in the 2022/2023 dataset. Dredging activity recorded in proximity to the licensed dredging areas was consistent in both datasets.

Fishing vessel counts in both datasets were similar with 2018 being slightly busier overall. The gear type count varied in both datasets. There was an increase in activity from beam trawlers, dredgers, demersal trawlers, and long liners/drift netters, with a reduction for all other gear types. Based on the data analysed, there was a 19% increase in fishing vessels using mobile demersal gear types, which are more likely to interact with a subsea cable. However, as the cable will be protected from fishing gear interaction by burial and/or external protection this is not expected to change the findings of the original assessment.

Recreational activity was more prominent in 2018 with a 5% decrease in the daily vessel count recorded in the 2022/2023 dataset for the two-month study period. Recreational vessel lengths were consistent in both datasets.

Based on the findings of the data validation, although an increase in demersal fishing activity was noted, and vessel numbers were noted to increase during the summer month, with an increase in the average size of vessels, the overall findings are similar. For the proposed interconnector, provided suitable burial and all other mitigations noted in the assessment are implemented, then any changes noted in the validation are not expected to result in a change in the overall results and conclusions of the impact assessment carried out in Chapter 13.