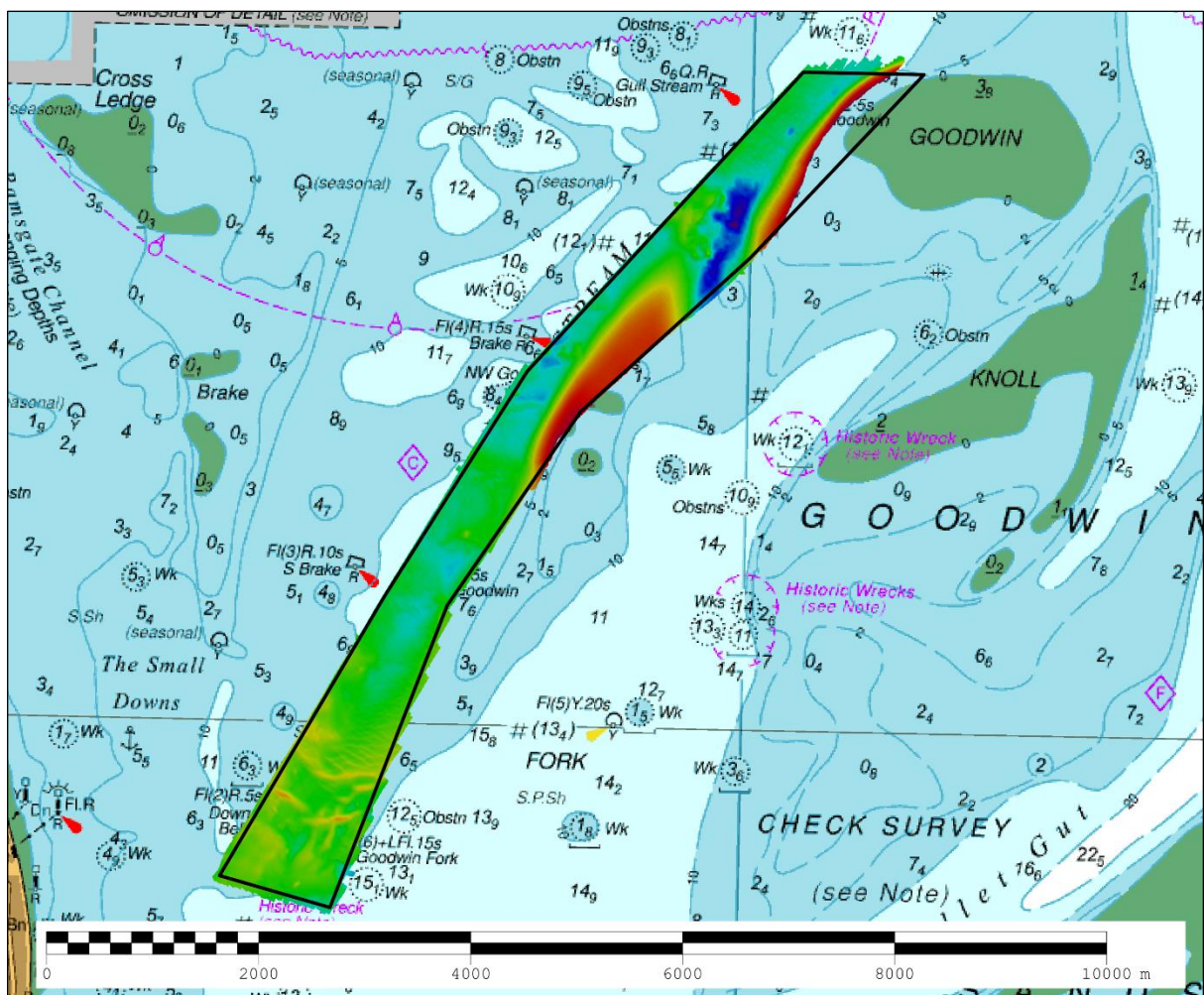




UK Hydrographic  
Office

## GOODWIN SANDS GULL STREAM FOCUSED AREA (GS2A) 2018 ASSESSMENT

An assessment of the 2018 hydrographic survey of the area GS2A: to monitor recent seabed movement; to identify any implications for shipping; and to make recommendations for future surveys.



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### Notes

This Assessment is produced by the UK Hydrographic Office (UKHO) for the Maritime and Coastguard Agency (MCA). Analysis of the Routine Resurvey Areas forms part of the Civil Hydrography Programme and the reports are made available to through the UKHO website and are presented to the Civil Hydrography Working Group. When approved, the recommendations are incorporated into the Routine Resurvey Programme. The report is governed by a Memorandum of Understanding between the DfT (including the MCA) and the MOD (including the UKHO).

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No analysis of shipping traffic has been included within this report due to no AIS data being supplied by MCA.

All depths are to Chart Datum, defined using the UKHO VORF Model

# GULL STREAM, GS2A, 2018

## 1. SUMMARY

### Changes Detected

- 1.1 Sandwaves in the southern end of the survey area have moved in a northwards direction since 2015 and the western extents of the Goodwin Sands have moved in a westerly direction, causing significant shoaling in the central and northern parts of the area along the eastern edge of the channel. Depth variations are in the range of -14.0m to +8.6m.

### Reasons for Continuing to Resurvey the Area

- 1.2 Depths in the area remain hazardous and highly changeable, including significant migration of shoal banks.

### Recommendations

- 1.3 Given the location of the survey area, the focused survey interval should remain at 3 years and full survey at 6 years.
- 1.4 As the channel has gradually shifted north-west, the entire area should be shifted to the north-west to align with current aids to navigation.

## 2. LOCATION

- 2.1 Survey interval at time of resurvey: 3 Years focused (6 years full)

- 2.2 Area Covered: 7.14 km<sup>2</sup>

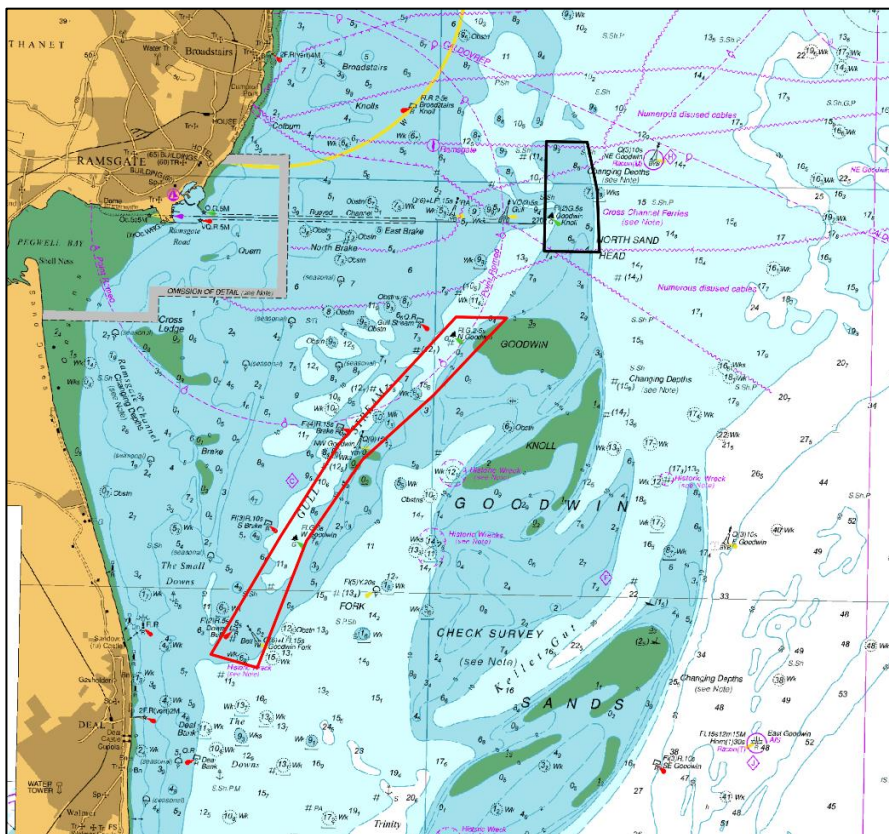




Figure 1: 2018 Gull Stream Routine Resurvey areas overlaid on BA Chart 323 with area GS2A in red

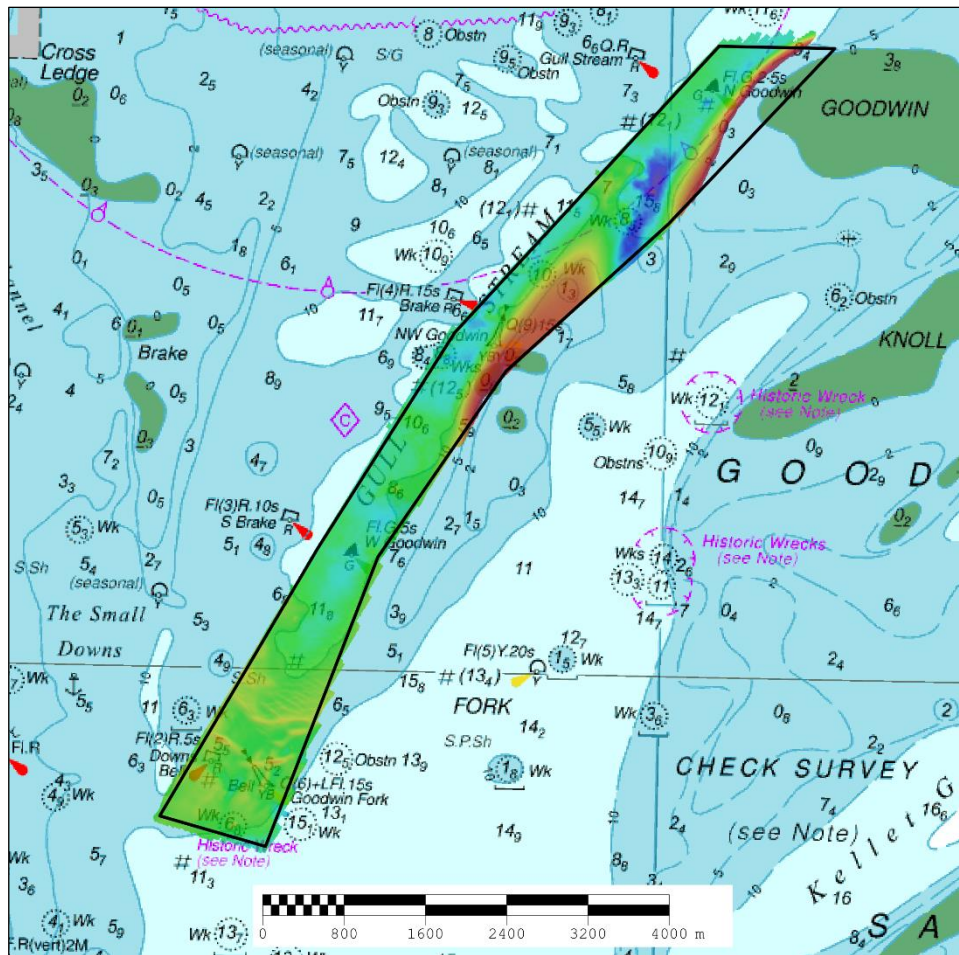


Figure 2: 2018 survey data overlaid on BA Chart 323

### 3. REFERENCE SURVEY DETAIL

- 3.1 HI1617 was surveyed between 5<sup>th</sup> January 2019 and 10<sup>th</sup> January 2019.
- 3.2 The Report of Survey for this survey is available upon request from the UKHO and the validated bathymetric surfaces are available to download from the Admiralty Marine Data Portal.

### 4. COMPARISON SURVEY DETAIL

- 4.1 HI1484 was surveyed between 8<sup>th</sup> August 2015 and 25<sup>th</sup> September 2015.
- 4.2 The Report of Survey for this survey is available upon request from the UKHO and the validated bathymetric surfaces are available to download from the Admiralty Marine Data Portal.

## 5. DESCRIPTION OF RECENT BATHYMETRIC CHANGE

- 5.1 The difference surface in Figure 3 shows significant change in depths along the western edge of the Goodwin Sands, where there is a difference range of -14.0m to +8.6m since 2015, as a result of sand banks migrating to the west in the central and northern parts of the survey area. The sandwaves in the south of the survey area are migrating northwards by approximately 90m since 2015. These migrations remain consistent with previous resurvey reports.
- 5.2 The depth plot in Figure 4 shows that the least depth in the 2018 survey is 0.3m, located on one of the sand banks in the northeast of the survey area. It is likely however that this depth is just the shoalest depth reached in the survey, and it is likely that to the east of this, there are yet shallower depths. It can also be seen in figure 4 that significant depths in other areas of the survey range from shoaling to deepening, illustrating the dynamics of the seabed throughout the survey area.

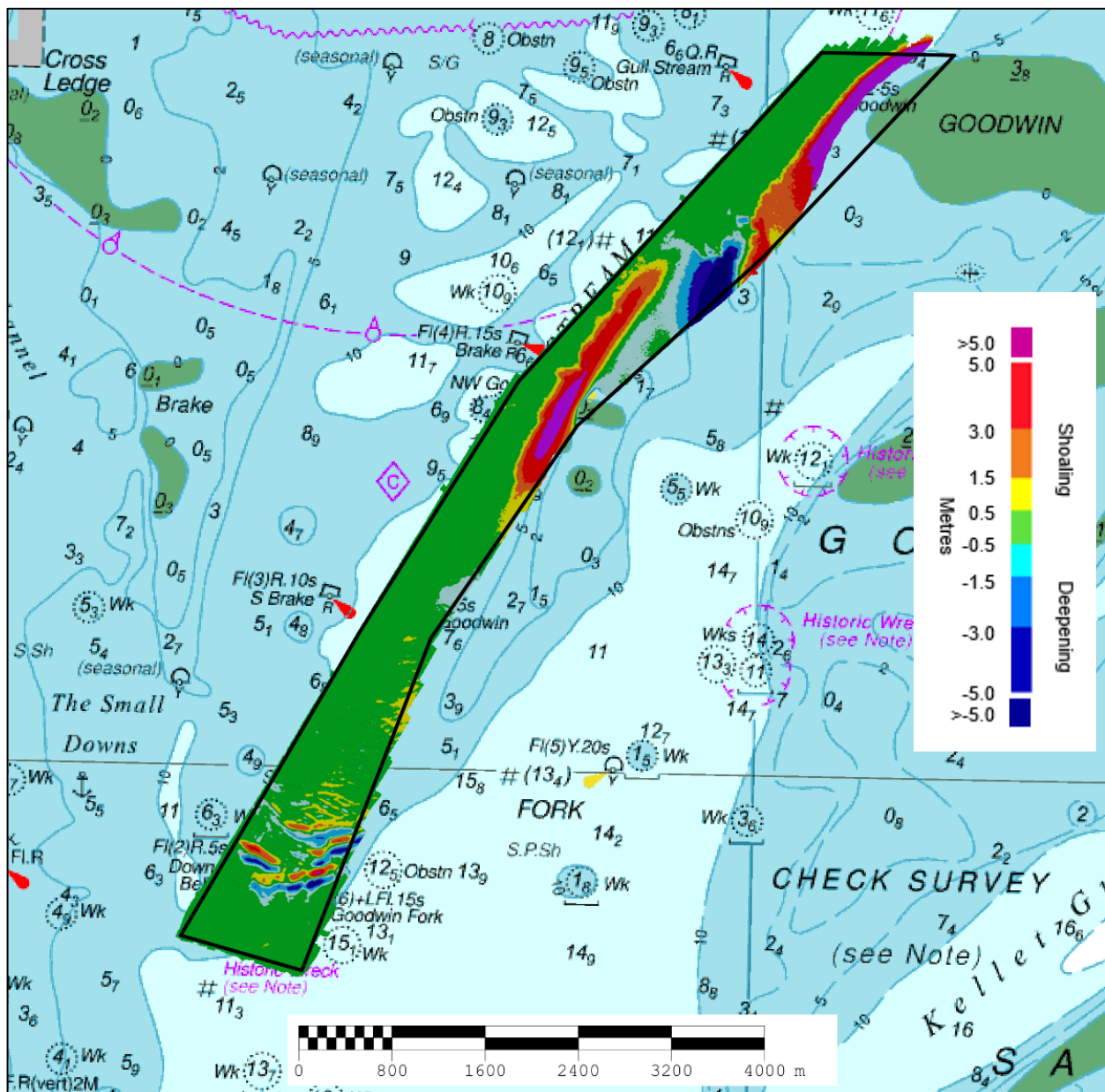


Figure 3: Difference surface showing bathymetric changes between the 2018 and 2015 surveys overlaid on BA Chart 323

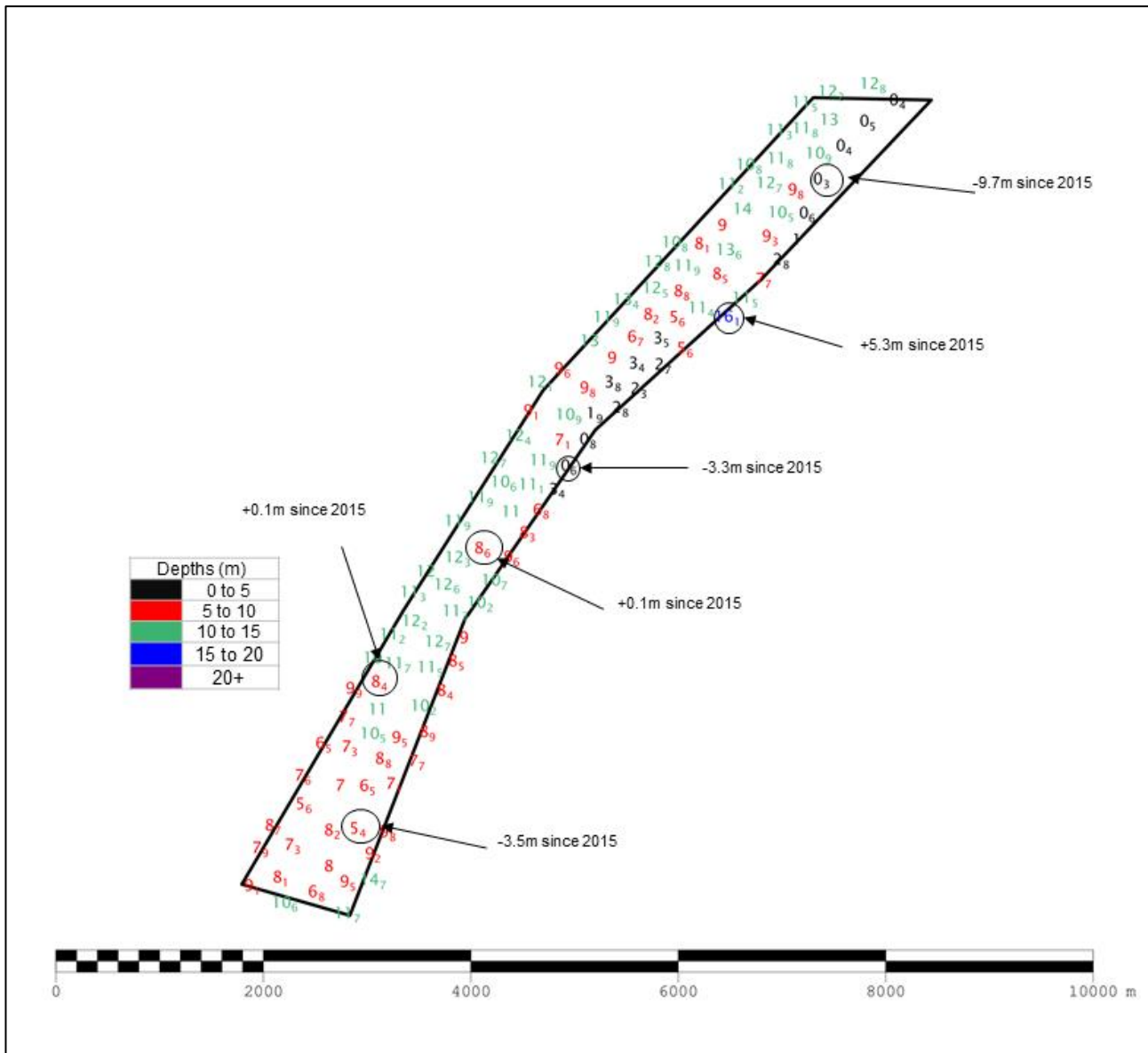


Figure 4: Colour banded depth plot from the 2018 survey with selected depth changes since the 2015 survey. Positive values (+) represent deepening. Negative values (-) represent shoaling.

## 6. RECOMMENDATIONS FOR FUTURE SURVEYS

### Survey Interval

6.1 Despite significant changes in some areas since 2015 along the western limit of the channel, key depths within the main channel remain similar to the previous surveys. Although the migration of the Goodwin Sands needs close monitoring, it is recommended that the current 3 year focussed survey and 6-year full survey intervals remain.

### Survey Area

6.2 As the channel has gradually shifted north-west, the entire focussed area should be shifted to the north-west to align with current aids to navigation.

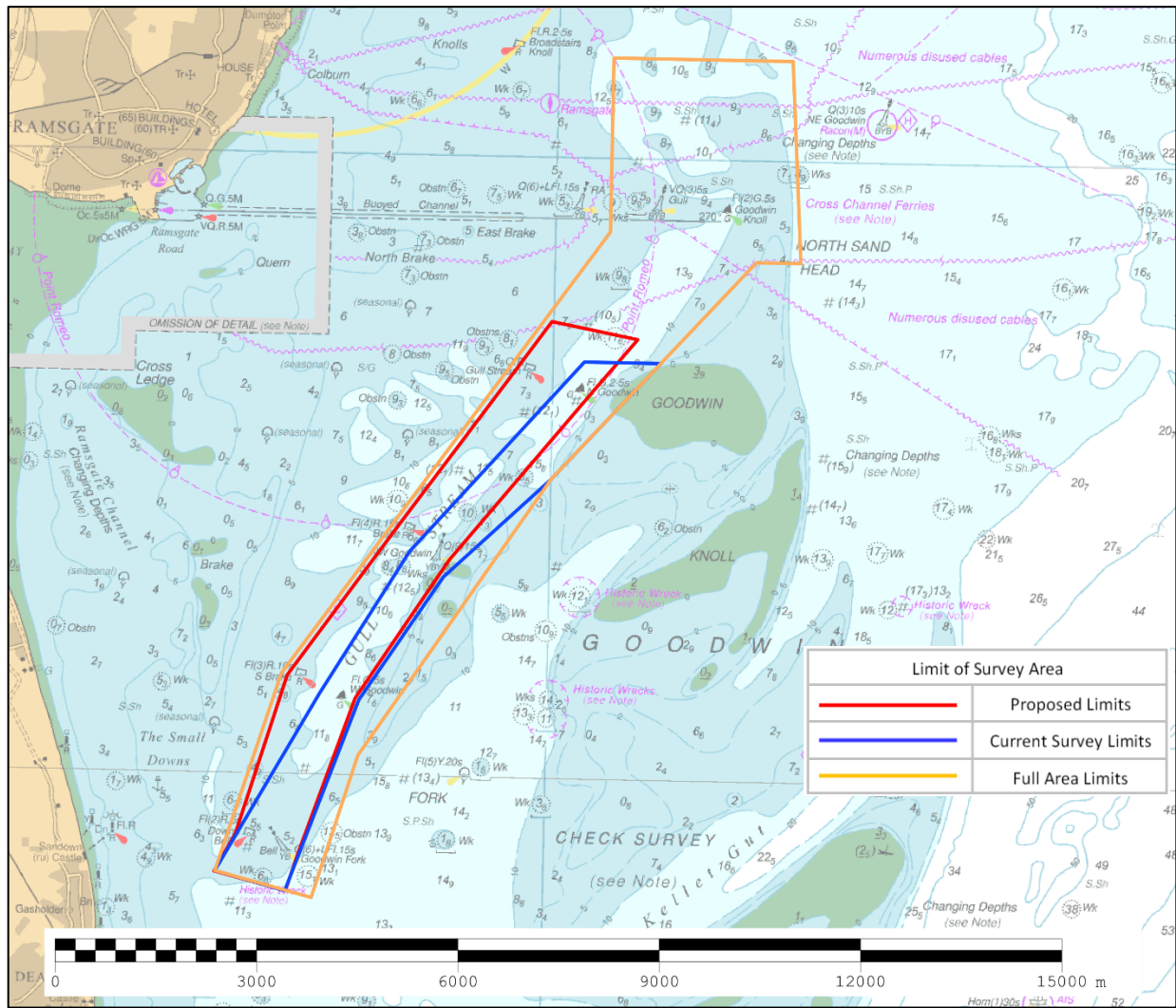


Figure 5: Recommended changes to survey limits of area GS2A

The coordinates of the recommended adjusted survey area limits for the three-year focused area GS2A are shown below:

A	51.304573N	001.492015E
B	51.311169N	001.499569E
C	51.308973N	001.517972E
D	51.301938N	001.508658E
E	51.278935N	001.478638E
F	51.260154N	001.459170E
G	51.239539N	001.447853E
H	51.234171N	001.445129E
I	51.236624N	001.429836E
J	51.241646N	001.434195E
K	51.263089N	001.444576E
L	51.282911N	001.467061E