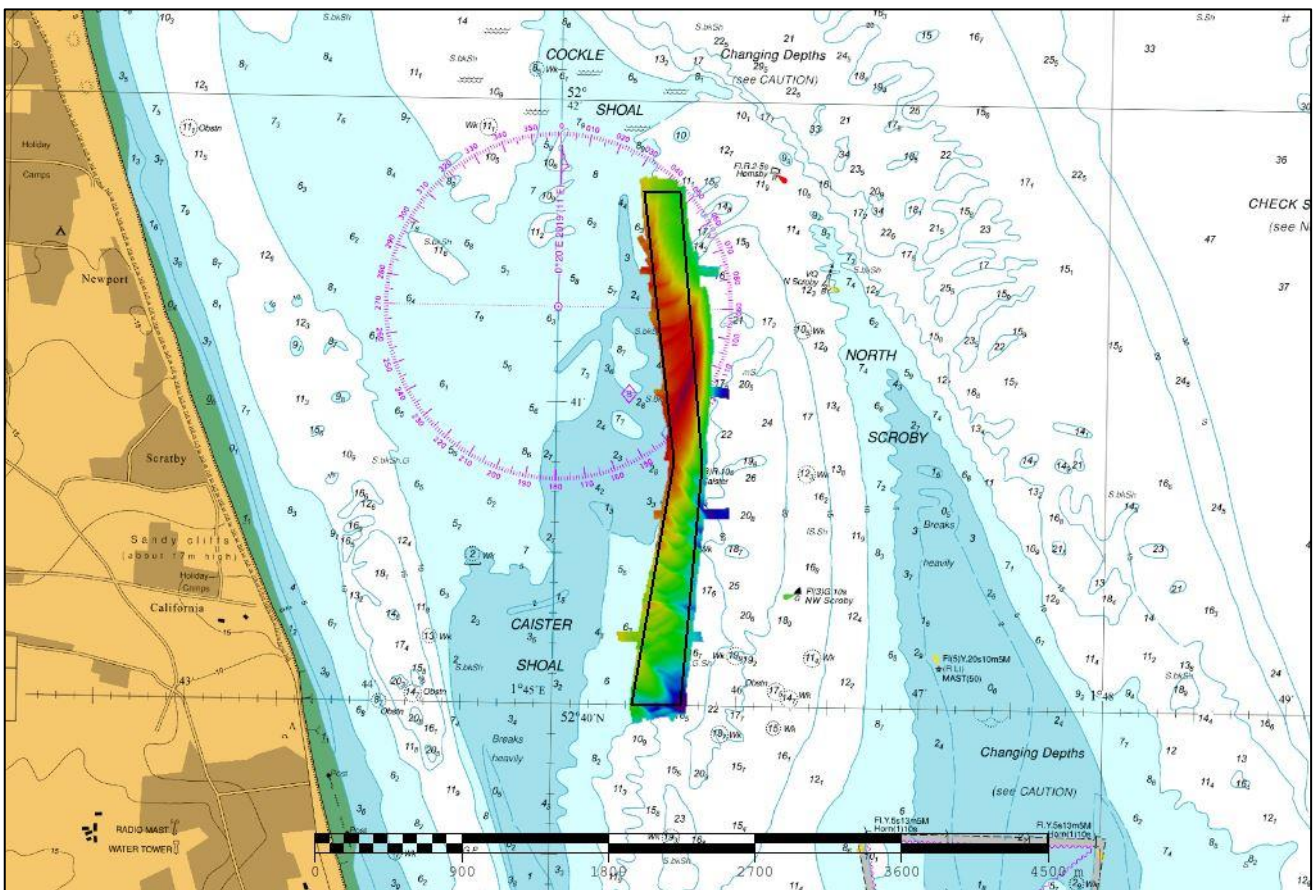




UK Hydrographic
Office

EAST ANGLIA COCKLE SHOAL FOCUSED (EA3A) 2019 ASSESSMENT

An assessment of the 2019 hydrographic survey of the area EA3A Cockerle Shoal Focused: 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).

The Admiralty Chart extracts, other graphics and tables in this Report are included for illustrative purposes only and are NOT TO BE USED FOR NAVIGATION.

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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

COCKLE SHOAL FOCUSED (EA3A) - 2019

1. SUMMARY

Changes Detected

- 1.1 Caister Shoal continues to migrate north-eastwards which is consistent with historical trends.
- 1.2 Shoaling in the northern-eastern edge of the survey by up to 6.5m since 2018.
- 1.3 Shoaling in the south-east by up to 6.9m since 2018.

Reasons for Continuing to Resurvey the Area

- 1.4 Depths in the area remain potentially hazardous and highly changeable around Cackle Shoal to vessels navigating the area and therefore require continued monitoring through annual resurveys.

Recommendations

- 1.5 Given the location of the area and the mobility and changes in the seabed, the focused survey EA3A should remain on the annual survey interval and the full survey EA3 should remain at 3 years.

Survey Area

- 1.6 Based on the mobility of the survey area in certain areas, EA3A was recommended for an extension in the 2018 report, but this came after the 2019 survey. The new polygons dated 2019 have been produced which should be used for the next scheduled focused survey.

2. LOCATION

- 2.1 Survey interval at time of resurvey: 1 year (The full EA3 area is surveyed every 3 years with two annual focused areas covering EA3a and EA3b)
- 2.2 Area Covered: 1.05 km²

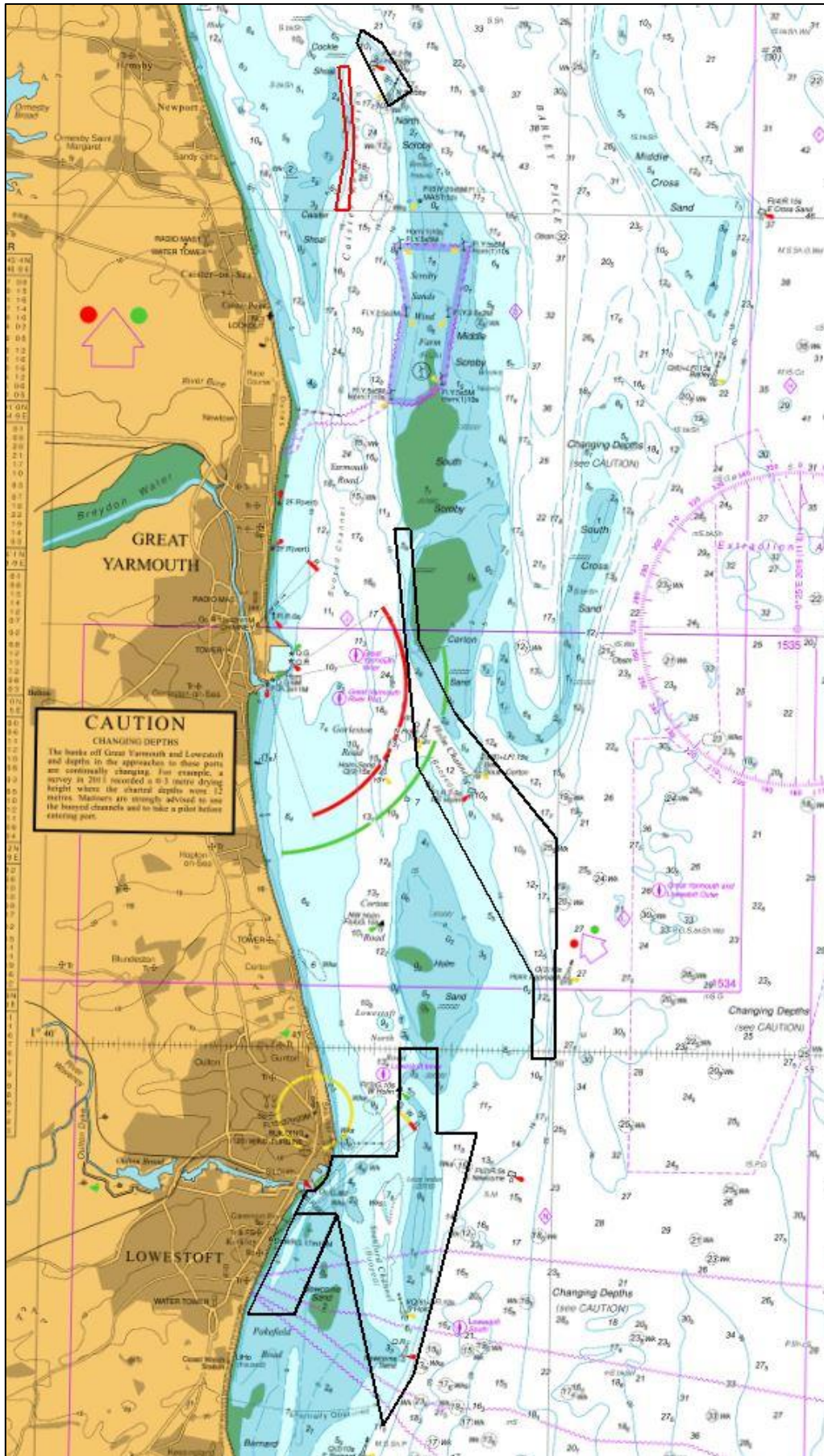


Figure 1: 2019 East Anglia Routine Resurvey areas overlaid on BA Chart 1543-0 with area EA3A in red

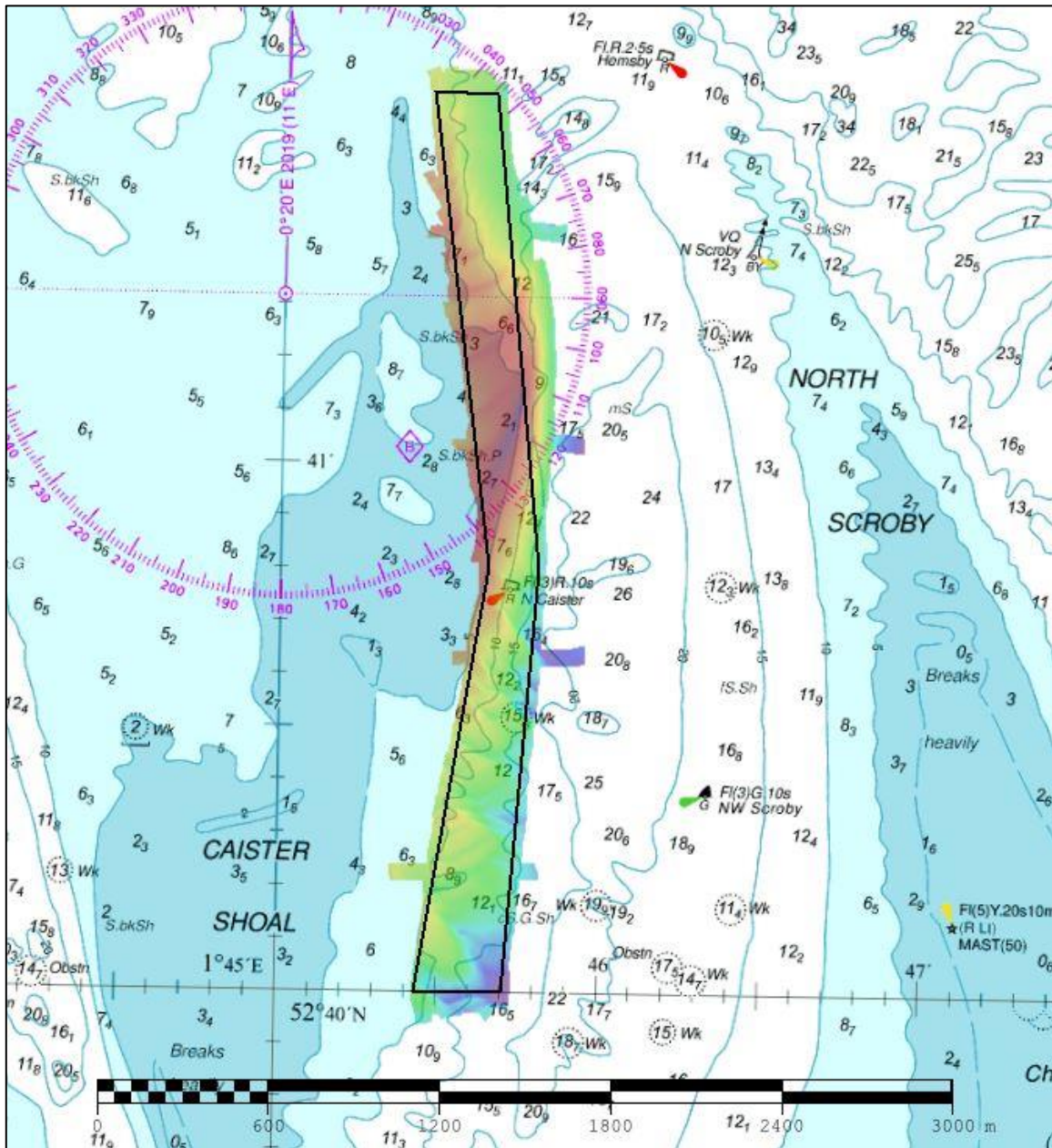


Figure 2: 2019 EA3A survey data overlaid on BA Chart 1534-0

3. REFERENCE SURVEY DETAIL

- 3.1 The previous survey conducted as part of the 2018 Routine Resurvey Programme was conducted in October 2018 as part of HI1608.
- 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. NEW SURVEY DETAIL

- 4.1 The latest survey as part of the 2019 Routine Resurvey Programme was conducted in October 2019 as part of HI1636.
- 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 Figures 3 to 4 show a north-eastwards migration of Caister Shoal within EA3A, which is consistent with historical trends in the area.
- 5.2 The difference plot shows shoaling in the north-eastern edge of the survey, with some shoaling in the south as well. There is also deepening of the seabed in the south-west.
- 5.3 The depth plot in Figure 5 shows that the least depth in the 2019 survey is 2.6 meters, located approximately 525m north of Caister buoy. The least depth was 2.1m in 2018 and 1.8m in 2017.
- 5.4 The largest differences shown in Figure 5 show a difference of +7.2m and -6.9m since 2018 in the southern region, approximately 1480m south of Caister buoy. The largest difference in the north-east section is 6.5m of shoaling, approximately 780m north of Caister buoy.
- 5.5 The contour plot in figure 4 confirms a north-eastwards migration of sand waves within the survey area.

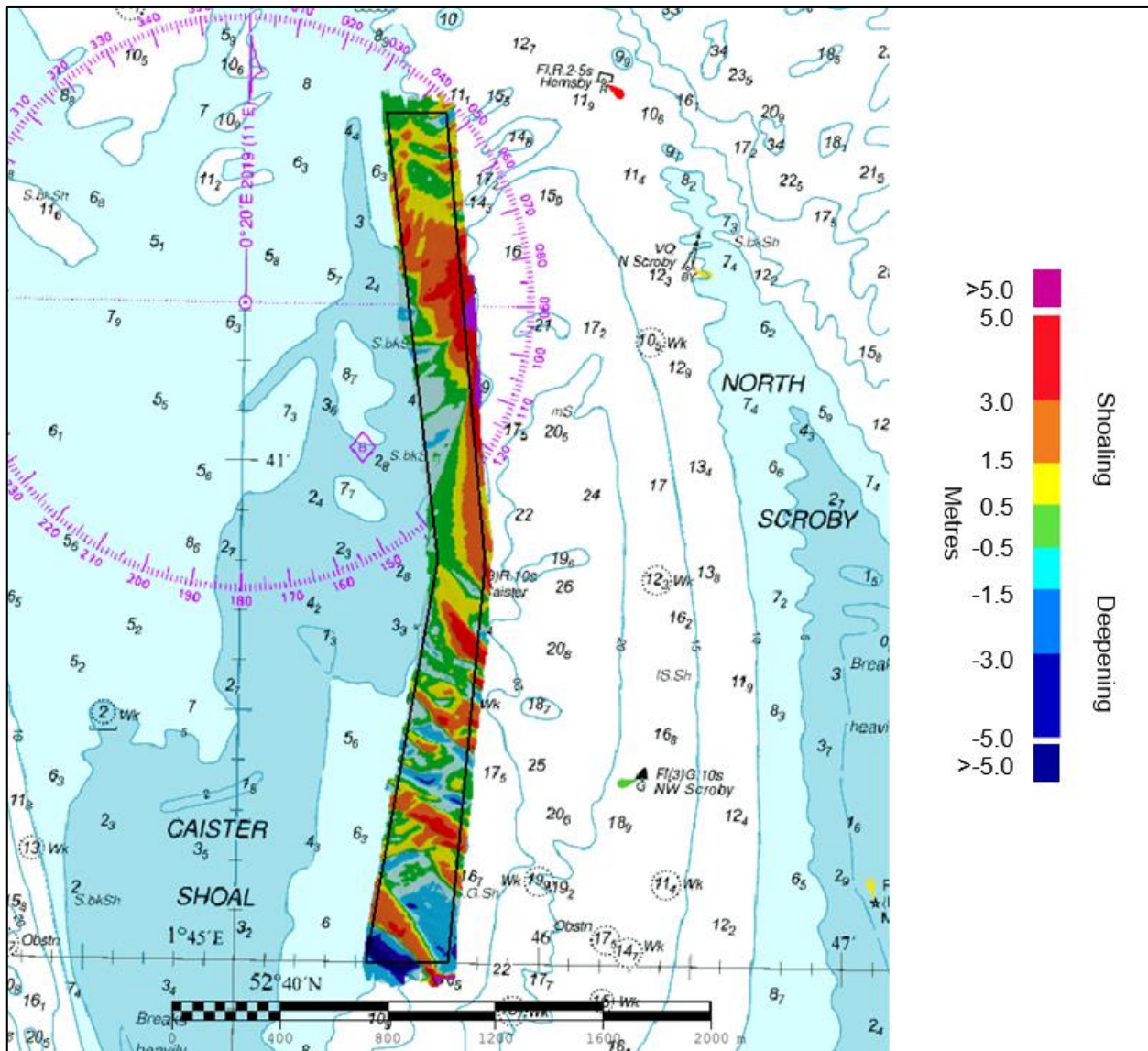


Figure 3: Difference Plot 2019-2018 EA3A overlaid on BA Chart 1534-0

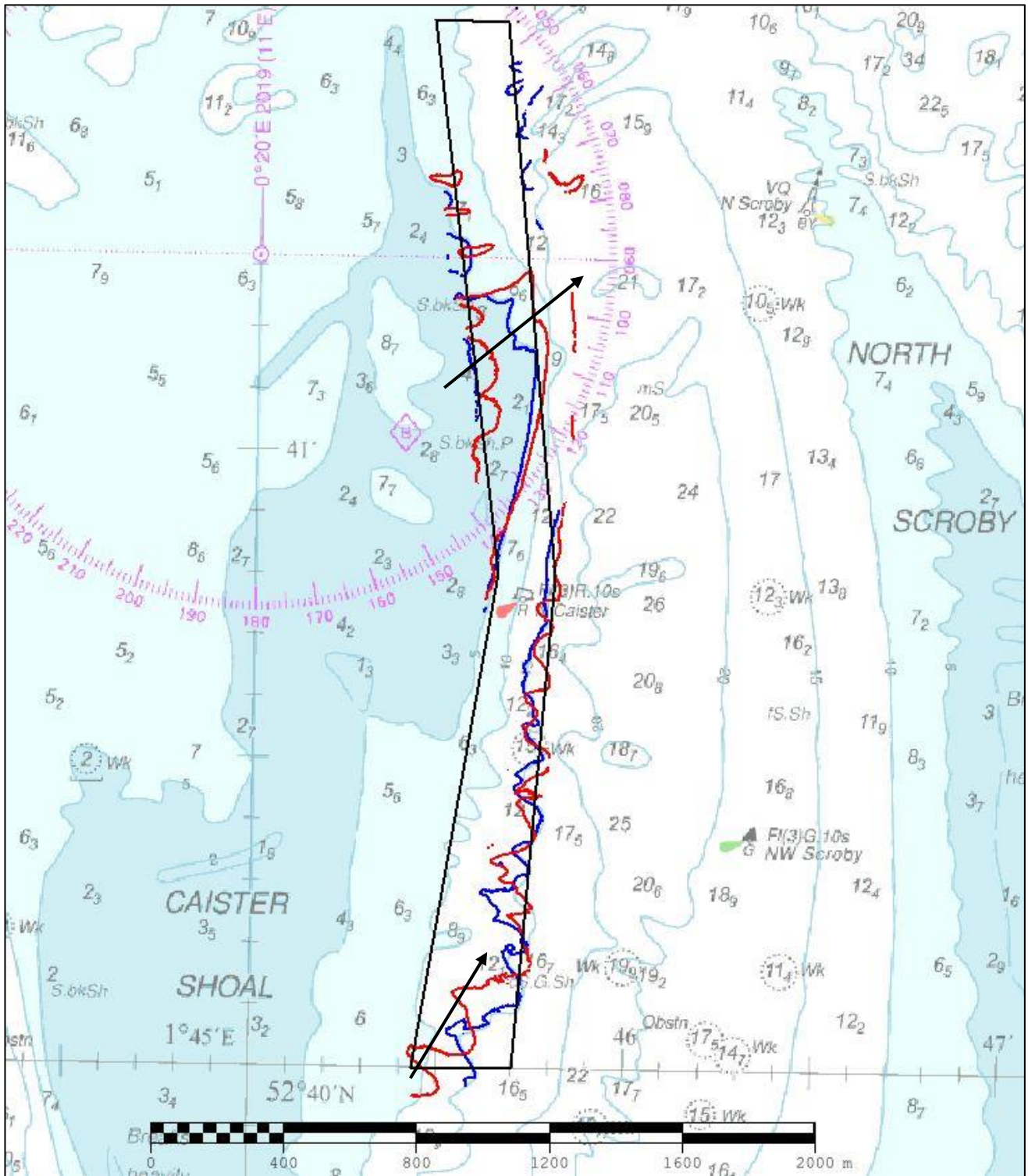


Figure 4 – Depiction of 5m and 15m contours moving north-eastwards from 2018 in blue to 2019 in red overlaid on BA Chart 1534-0.

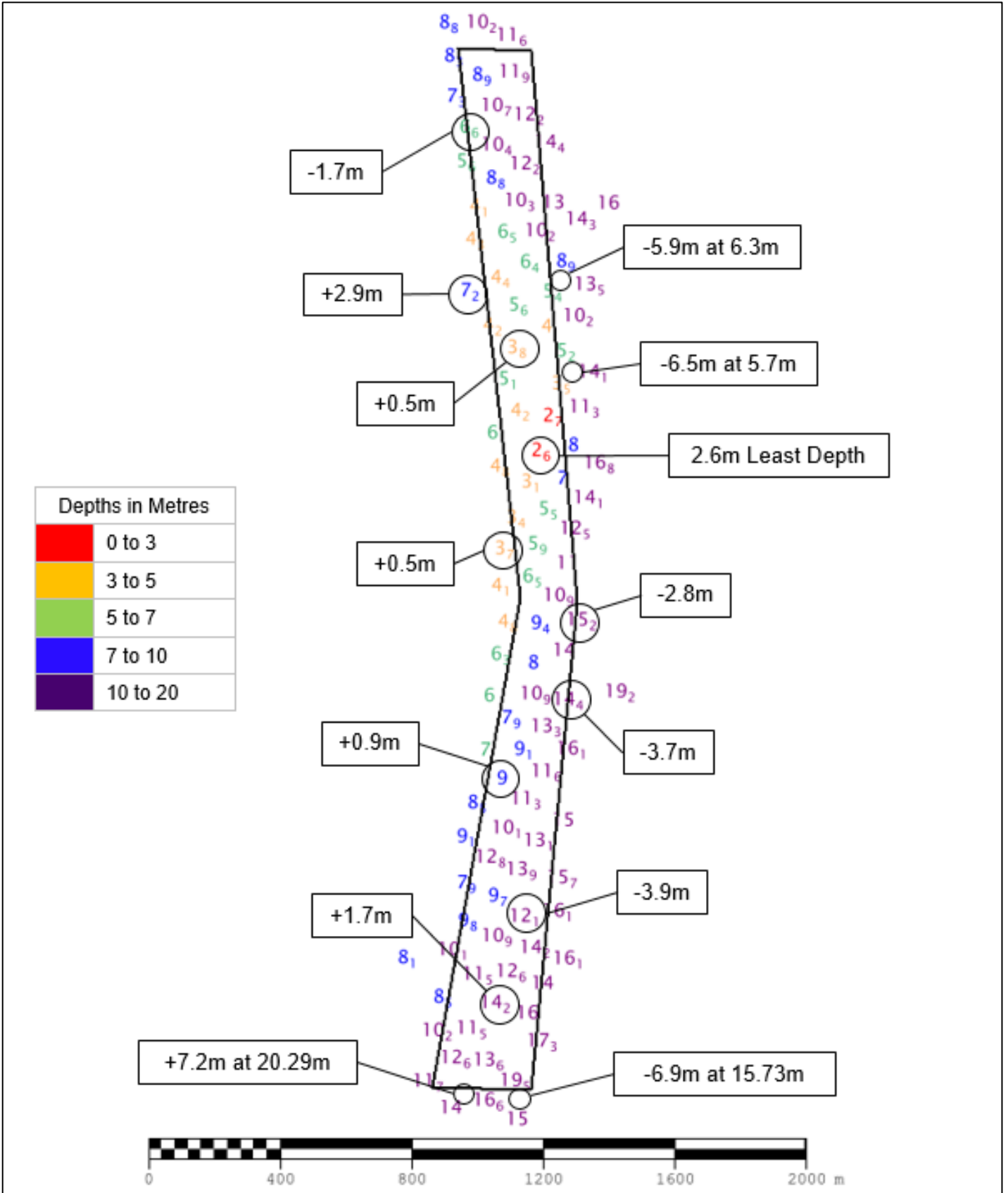


Figure 5: Colour banded depth plot from the 2019 survey with selected depth changes since the 2018 survey.

Positive values (+) represent deepening. Negative values (-) represent shoaling.

6. RECOMMENDATIONS FOR FUTURE SURVEYS

Survey Interval

6.1 Given the location of the area and the mobility and changes in the seabed, the focused survey EA3A should remain on the annual survey interval and the full survey EA3 should remain at 3years.

Survey Area

6.2 Based on the mobility of the survey area in certain areas, EA3A was recommended for an extension in the 2018 report, and new polygons dated 2019 have already been produced as below.

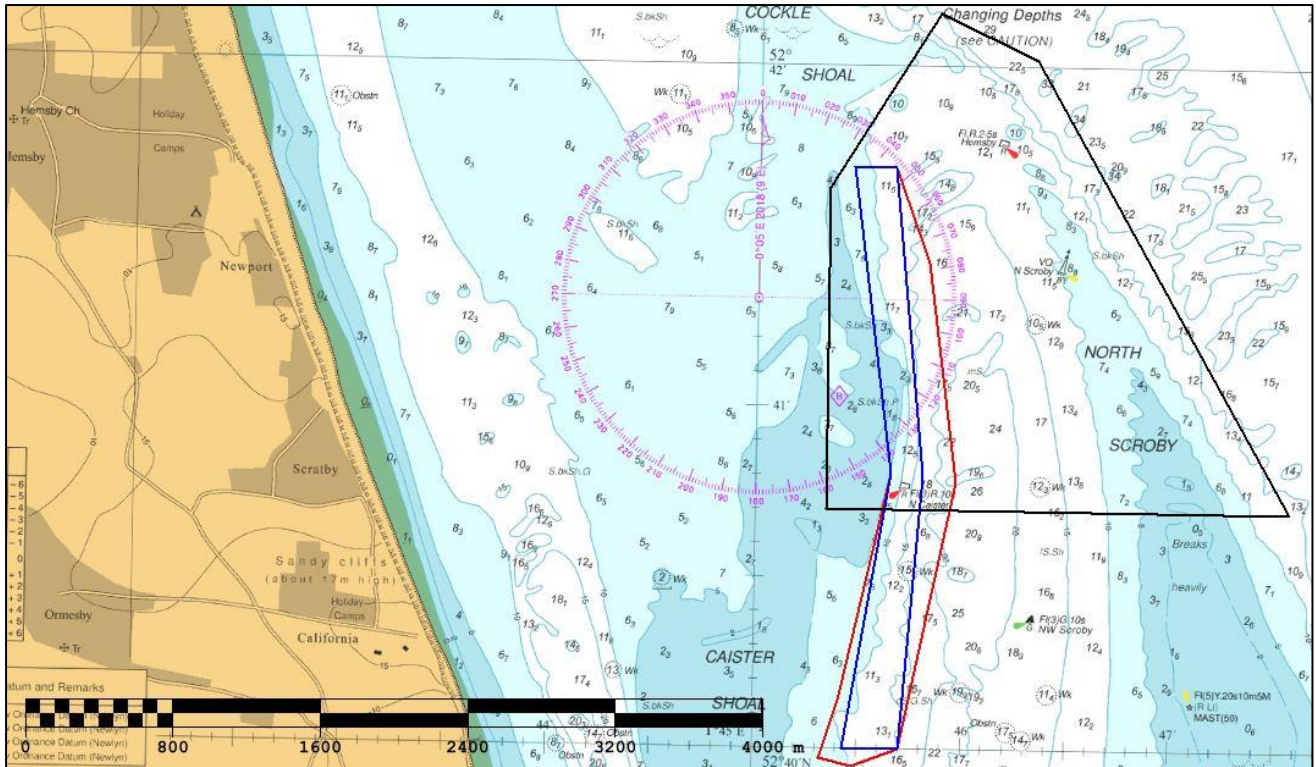


Figure 6: Recommended changes to survey limits of area EA3a. Existing in Blue, New Agreed in Red, Full Area in Black.

The coordinates of the survey area limits for the annual focused area EA3a are shown below:

EA3a total area: 1.12 km²

A	52.69504N	1.75756E
B	52.69500N	1.76083E
C	52.69041N	1.76361E
D	52.67968N	1.76597E
E	52.66666N	1.76166E
H	52.66575N	1.75796E
I	52.66616N	1.75533E
J	52.66897N	1.75684E
K	52.68009N	1.76076E