



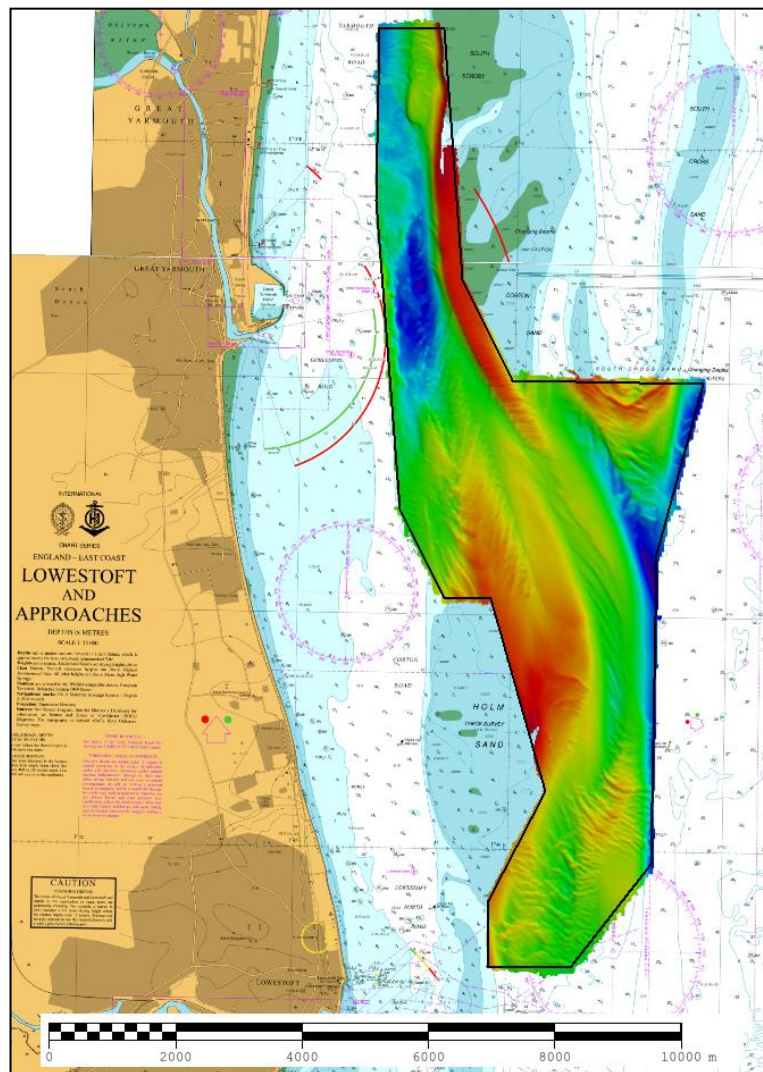
UK Hydrographic  
Office



Maritime &  
Coastguard  
Agency

## EAST ANGLIA EA9 – HOLM CHANNEL (FULL) 2020 ASSESSMENT

An assessment of the 2020 hydrographic survey of the area: 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.

## **EA9 HOLM CHANNEL FULL, 2020**

### **1. SUMMARY**

#### **Changes Detected**

- 1.1 In EA9 there is continuing sand wave migration which is consistent with historical trends. To the north of the area, Corton Sand continues to move west.
- 1.2 In the central area, the north easterly direction of sandwave migration seen in previous surveys has resulted in a new controlling depth in this part of Holm Channel.
- 1.3 To the east of Holm Sand there have been changes to the 5m and 10m contours due to the eastern migration of Holm Sand. South east of Holm Sand the migration has been in a southerly direction resulting in changes to depths and the 10m contour.

#### **Reasons for Continuing to Resurvey the Area**

- 1.4 Depths in the area remain hazardous and changeable to deep draught vessel navigating the area and therefore require continued monitoring through annual focused resurveys, and 3-year full resurveys.

#### **Recommendations**

- 1.5 Given the location of the area, the mobility and changes in the seabed, EA9 should remain on the 3 yearly survey intervals with annual focused resurveys.
- 1.6 Except for Holm Sand, the area to the west of the survey area is relatively stable. The area to the east, south of South Cross Sand, is becoming deeper than seen on previous surveys due to sediment migration. The north easterly sandwave migration in Holm Channel is covered by the limits of the focused survey area of Holm Channel. It is recommended that the 3 yearly EA9 full resurveys continue as well as the yearly EA9a focused resurveys.

### **2. LOCATION**

- 2.1 Survey interval at time of resurvey: The full EA9 area is surveyed every 3 years with an annual focused area covering EA9a.
- 2.2 Area Covered: 33.8 km<sup>2</sup>

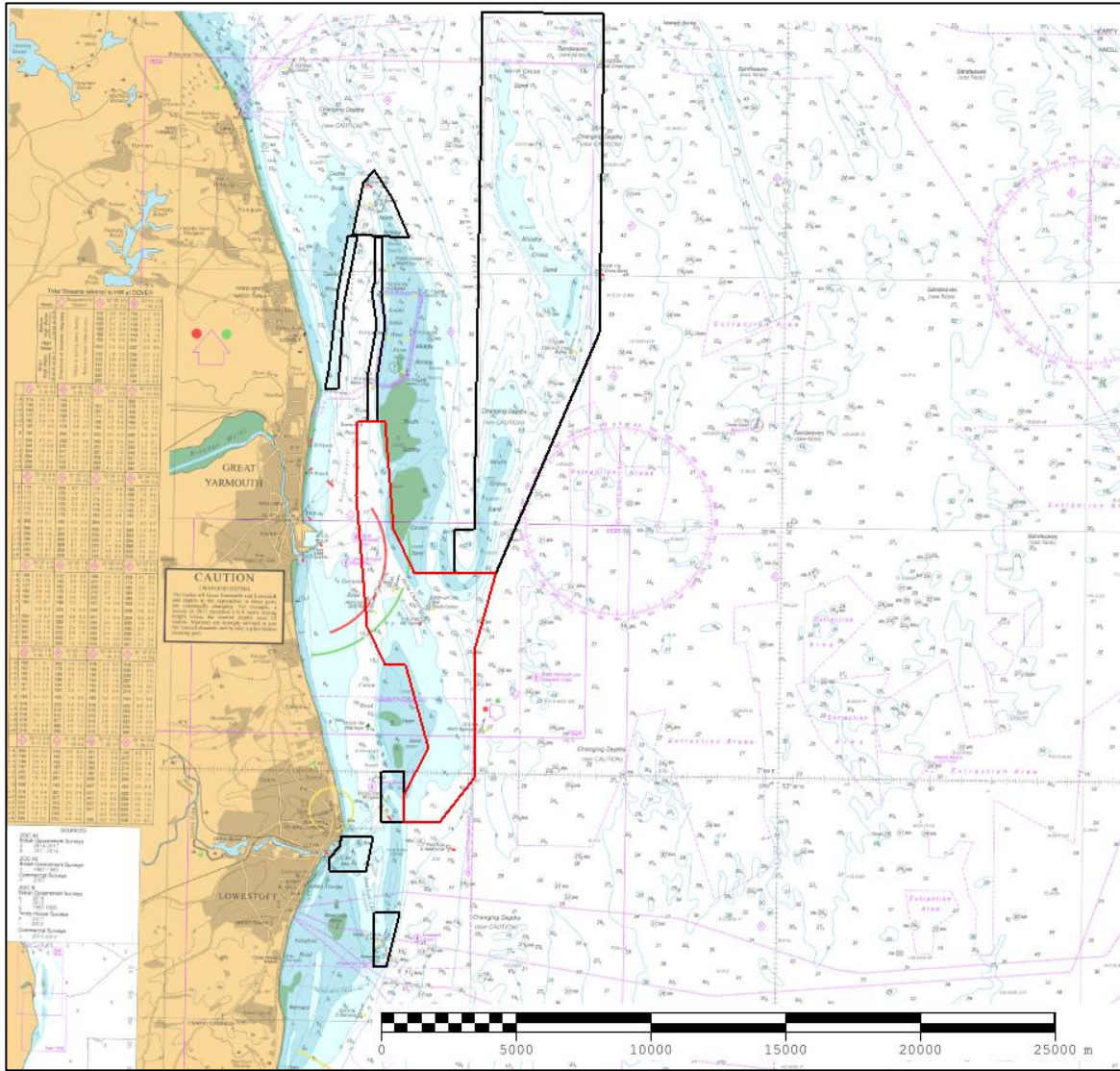


Figure 1: 2020 East Anglia Routine Resurvey areas overlaid on BA Chart 1543 with area EA9 in red.



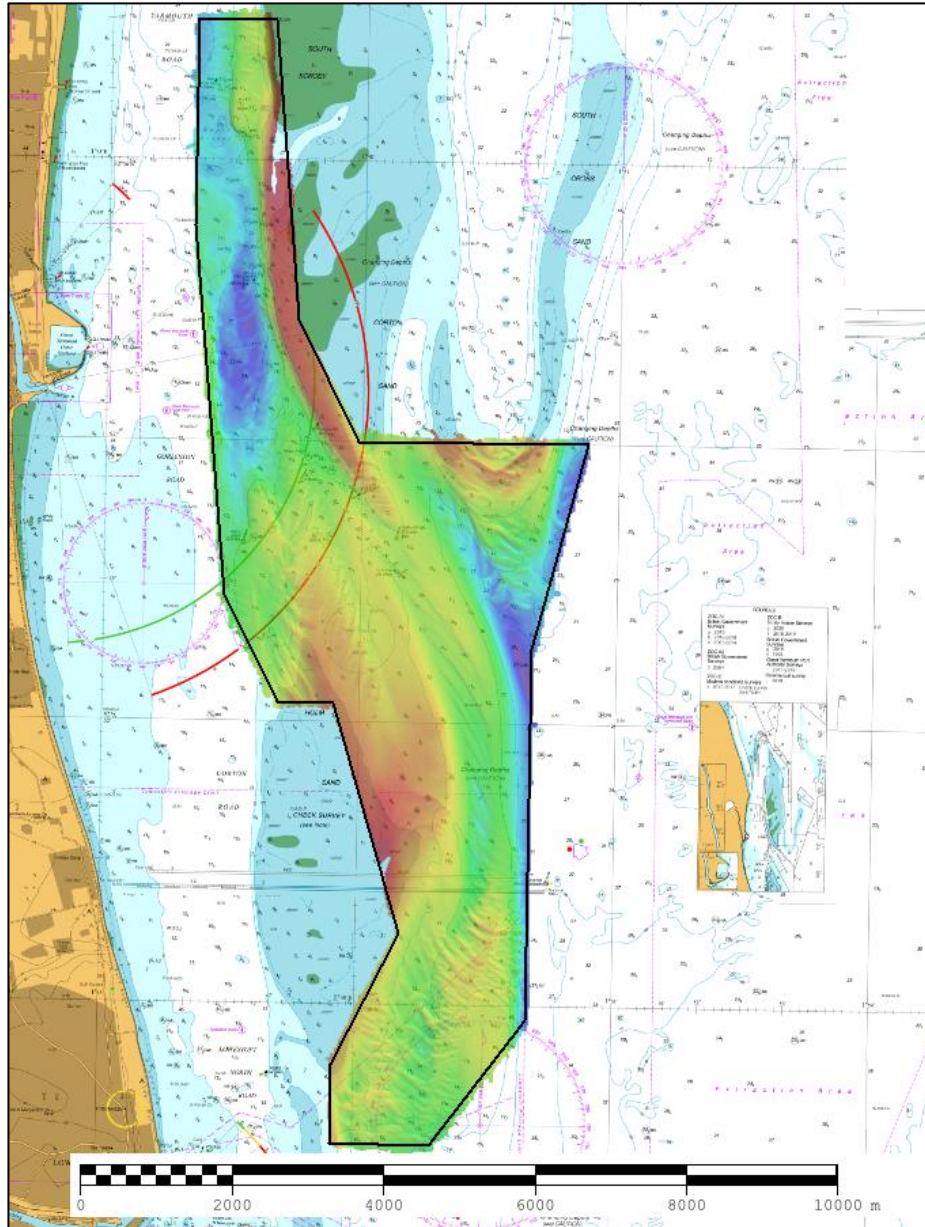


Figure 2: 2020 survey data overlaid on BA Charts 1534 and 1535

### 3. REFERENCE SURVEY DETAIL

- 3.1 The previous focused survey was conducted within the 2019 Routine Resurvey Programme between September and October 2019 as part of HI1638. The previous full survey was conducted within the 2017 Routine Resurvey Programme between May and November 2017 as part of HI1545.
- 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 full survey was conducted within the 2020 Routine Resurvey Programme in October 2020 as part of HI1687.

- 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 Figure 3 shows that the controlling depth within Holm Channel from the 2020 survey is 9.4m, located in the centre of the survey.
- 5.2 The difference surface in Figure 4 shows the changes between the 2017 and 2020 surveys. The difference surface in Figure 5 shows changes between the 2019 and 2020 surveys. Both show significant shoaling to the west of Corton Sand and south west of South Scroby. In the centre of the difference surface the continued north easterly movement of sediment into Holm Channel can be seen, and the easterly movement of Holm Sand to the south of Holm Channel.
- 5.3 The contour plot in Figure 6 shows the movement of the 5m contour since 2017. The contour plot in Figure 7 shows the movement of the 10m contour since 2017 demonstrating the sandwave migration between surveys.

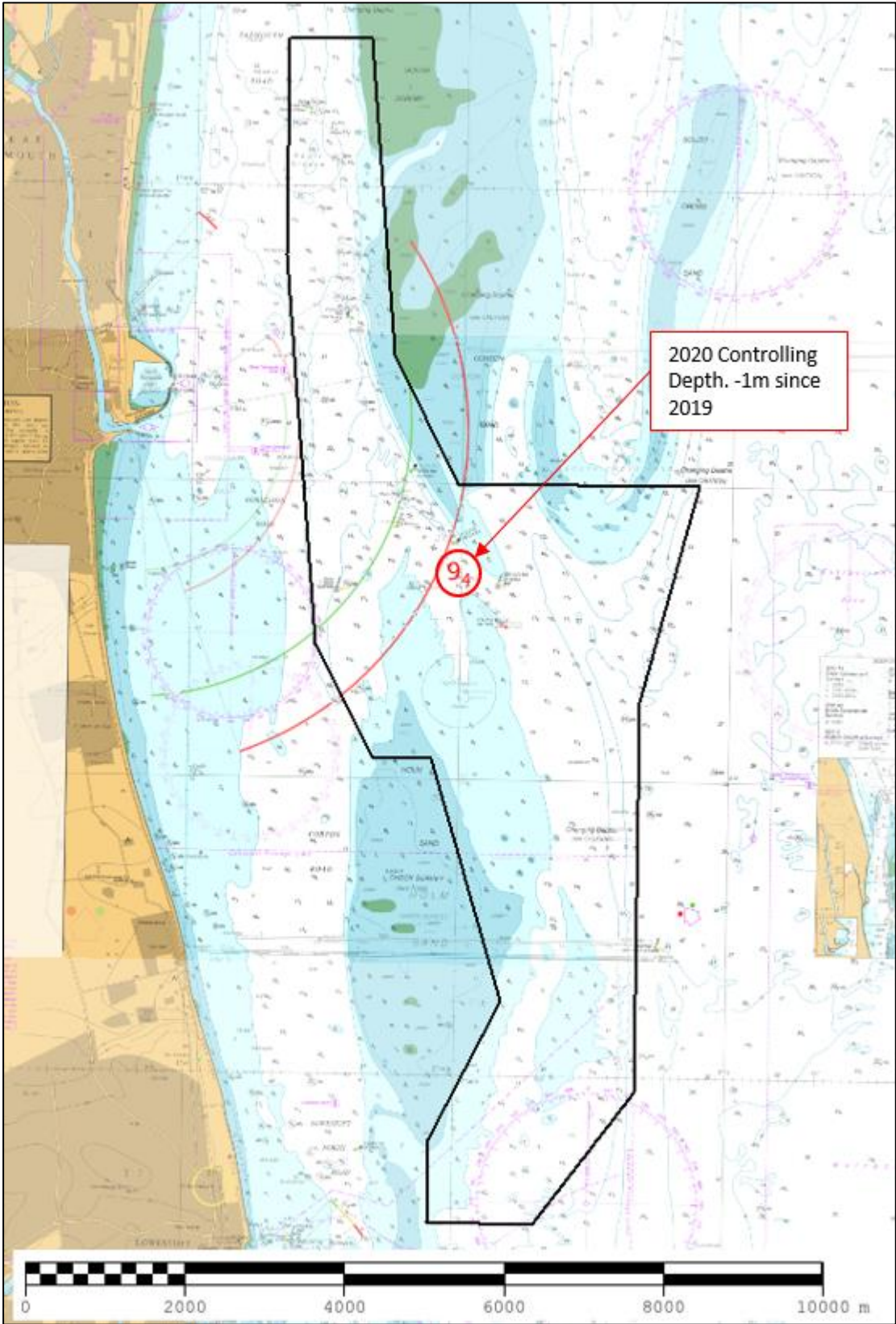


Figure 3: Controlling Depth sounding in Holm Channel highlighted, overlaid on BA Chart 1534 and 1535.



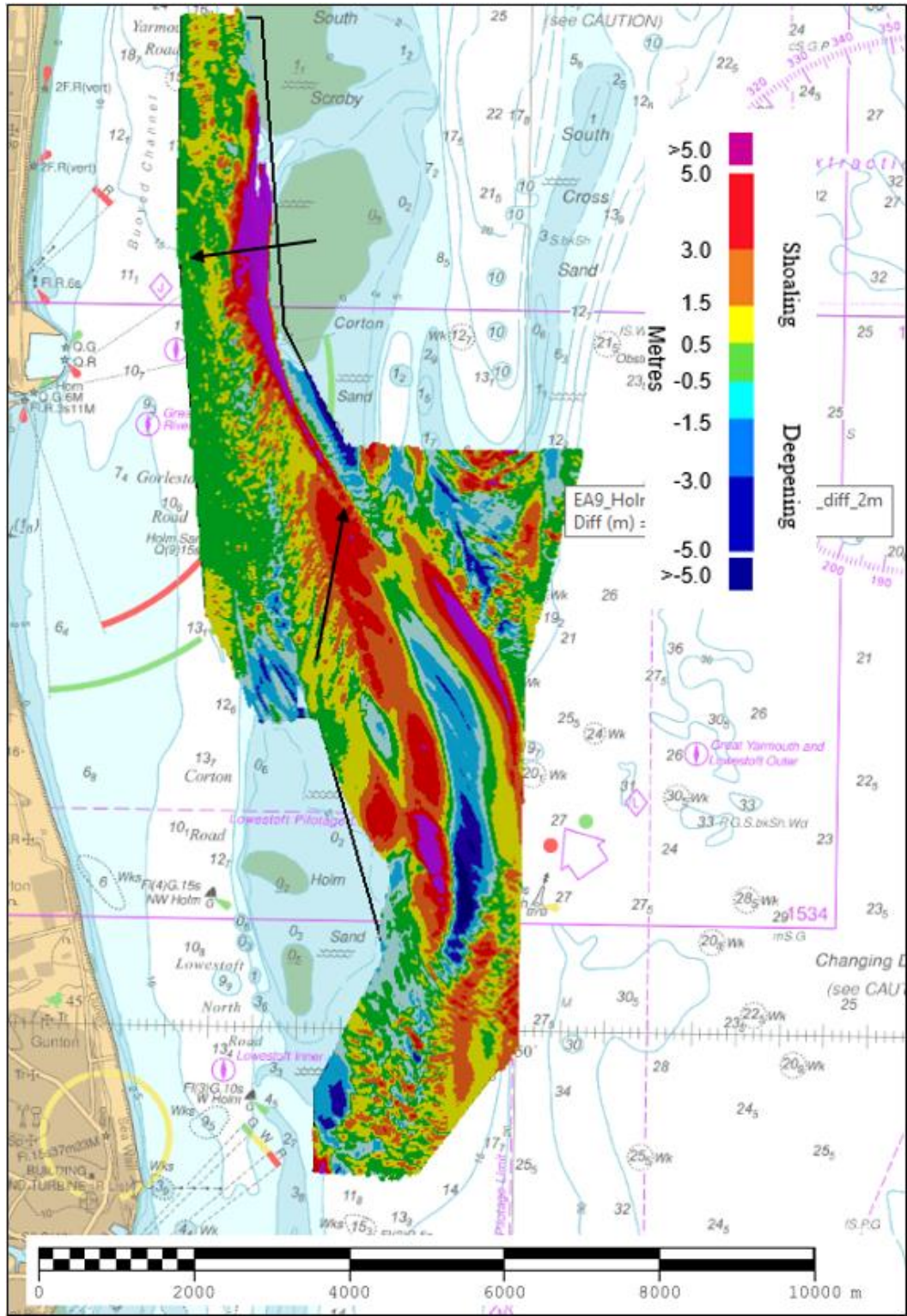


Figure 4: Difference surface showing bathymetric changes between the 2020 and 2017 surveys overlaid on BA Chart 1543 (Black arrows represent sandwave migration since 2017 survey)



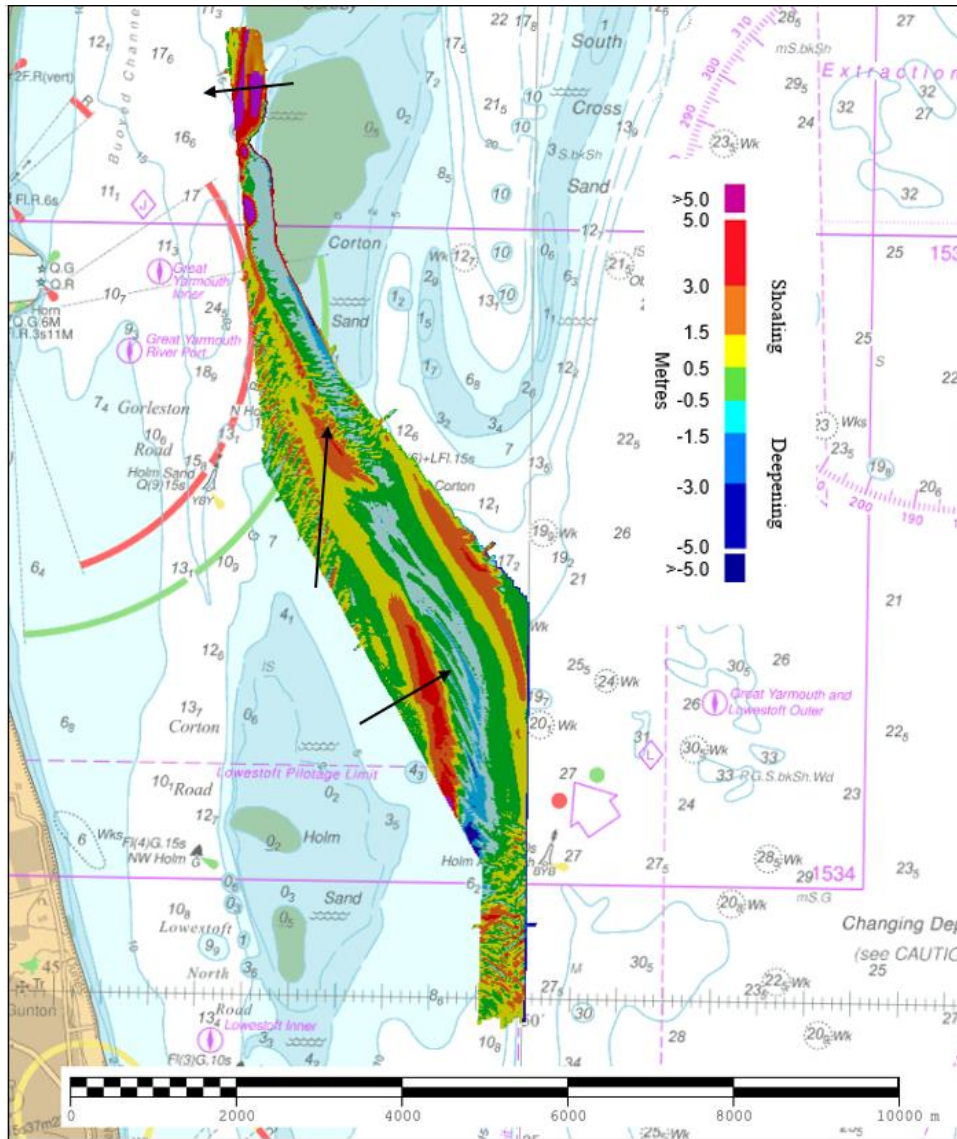


Figure 5: Difference surface showing bathymetric changes between the 2020 and 2019 surveys overlaid on BA Chart 1543 (Black arrows represent sandwave migration since 2019 survey)

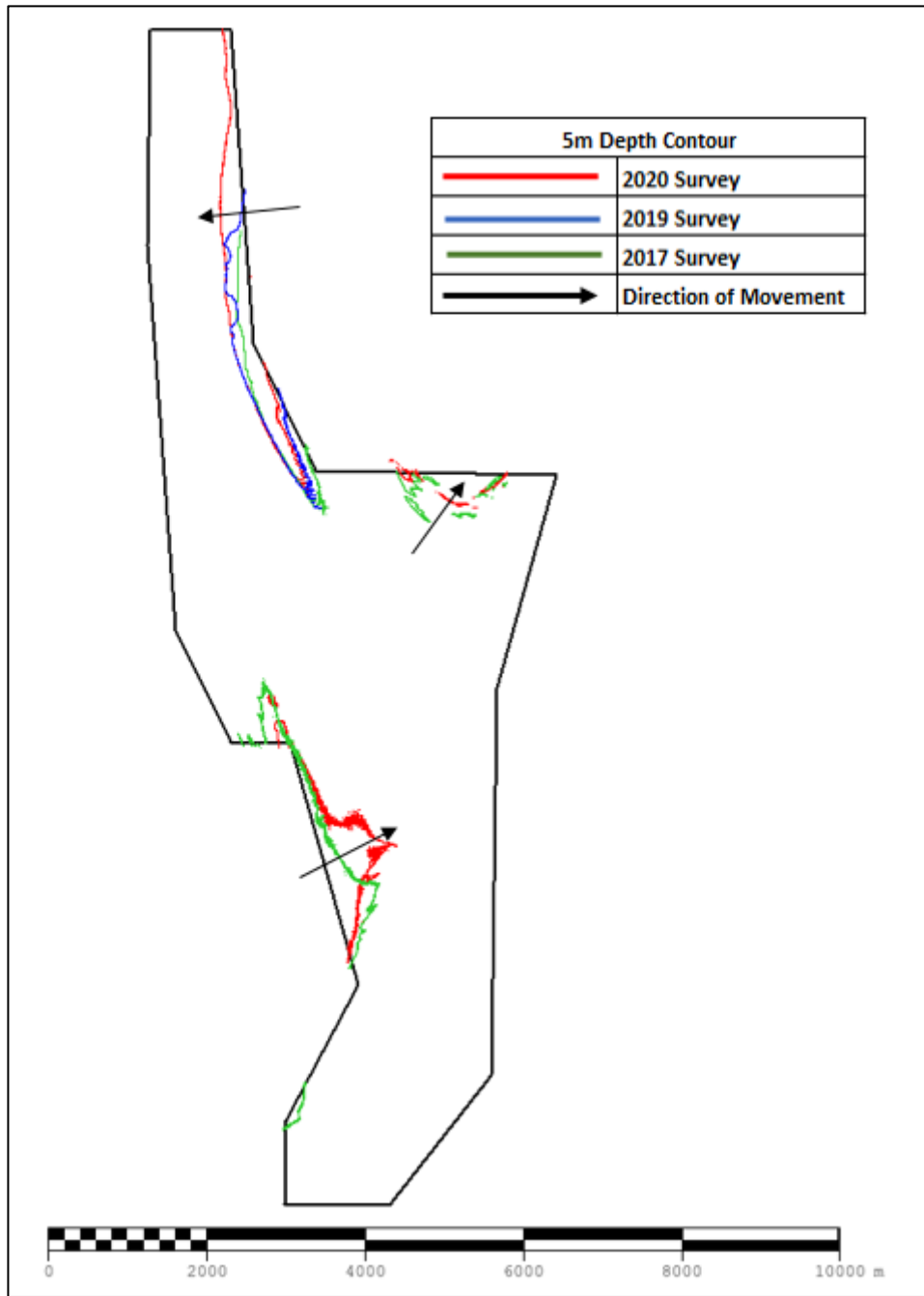


Figure 6: Contour plot showing changes in the 5m contour between 2020 (red), 2019 (blue) and 2017 (green). Black arrow represents feature migration.

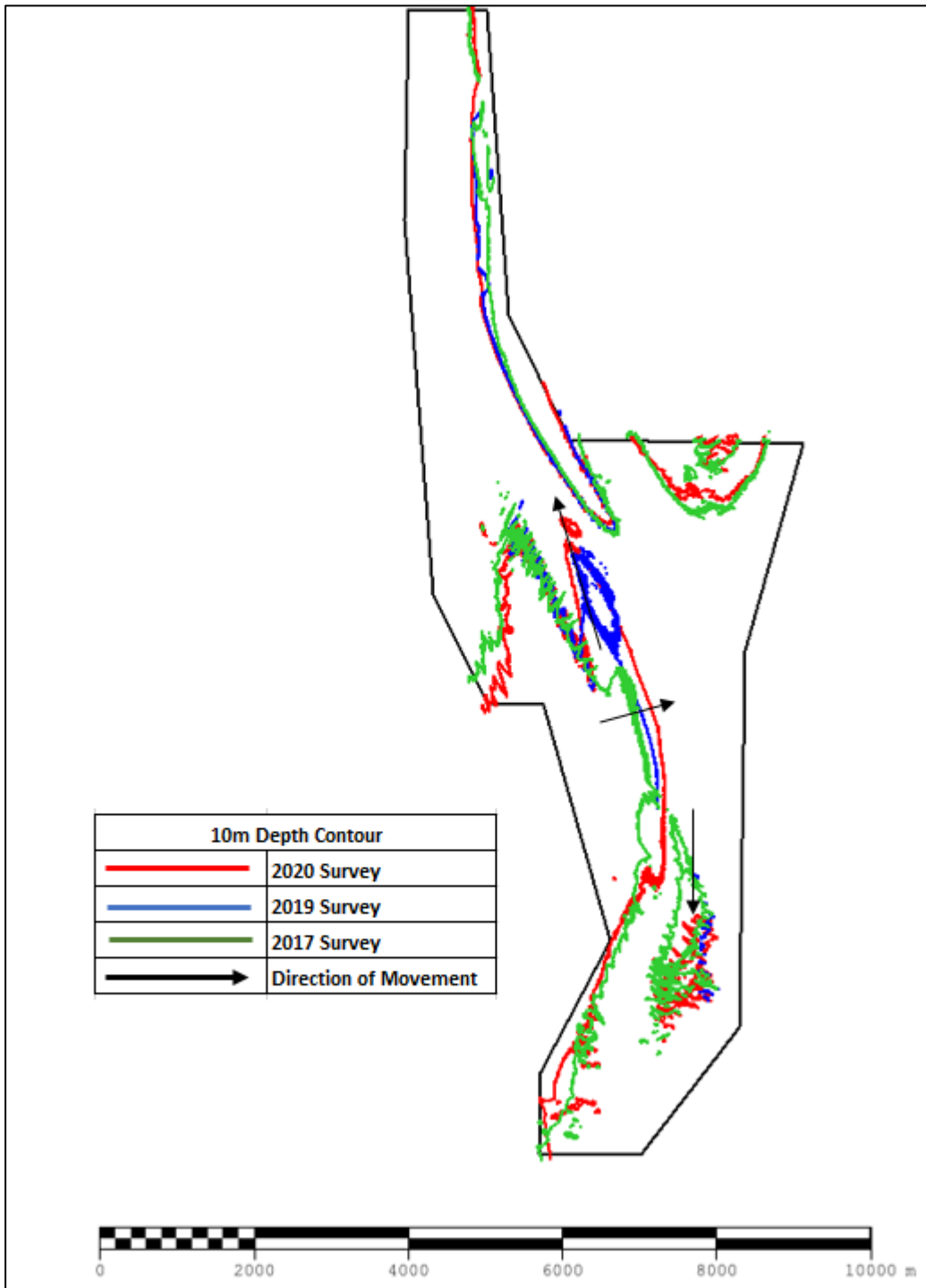


Figure 7: Contour plot showing changes in the 10m contour between 2020 (red), 2019 (blue) and 2017 (green). Black arrow represents feature migration.

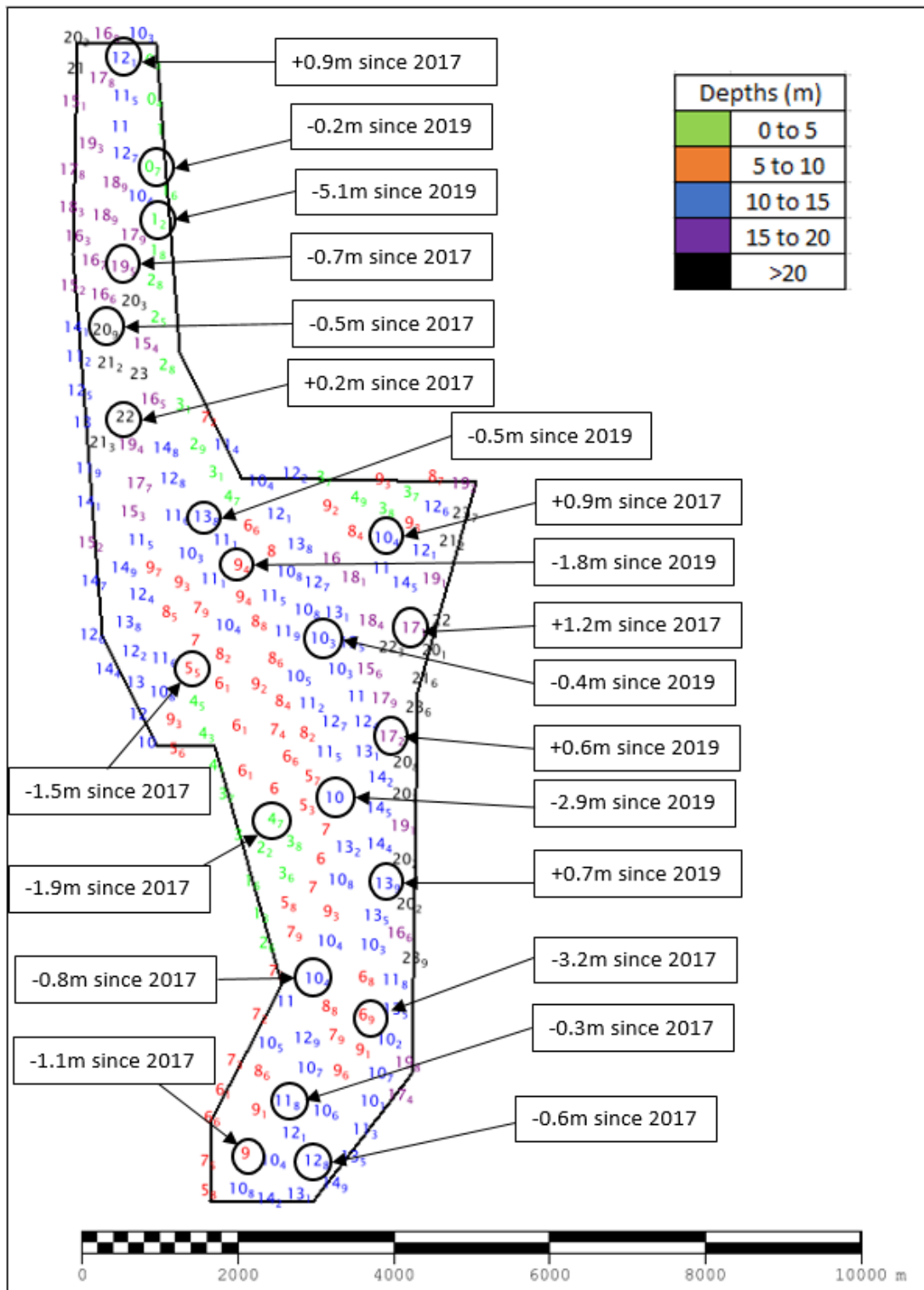


Figure 8: Colour banded depth plot from the 2020 survey with selected depth changes since the 2019 and 2017 surveys. Positive values (+) represent deepening. Negative values (-) represent shoaling.



## **6. RECOMMENDATIONS FOR FUTURE SURVEYS**

### **Survey Interval**

It is recommended that the 3 yearly EA9 full resurveys continue as well as the yearly EA9a focused resurveys.

### **Survey Area**

It is recommended to retain the existing limits of the full and focussed surveys.