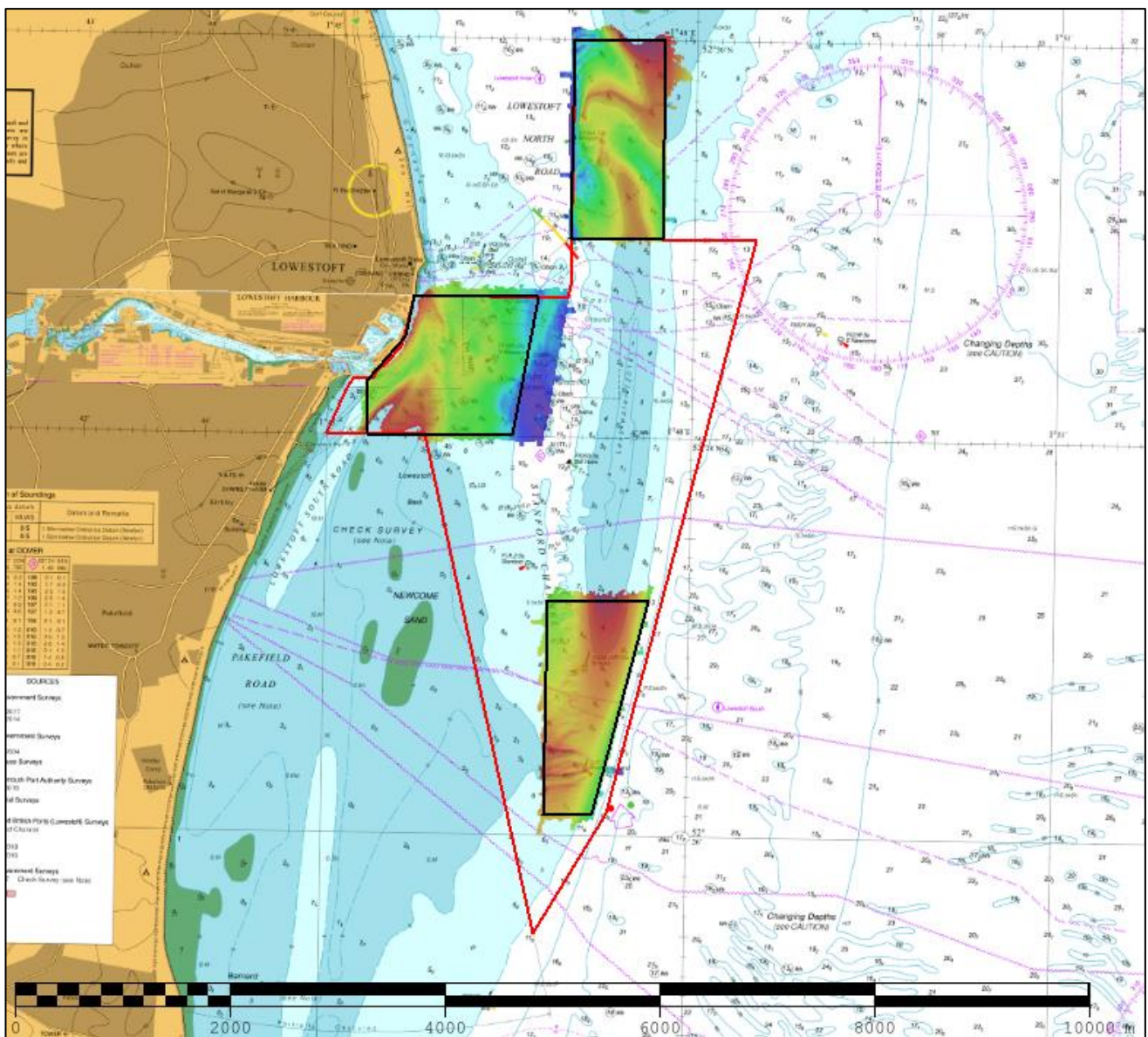




UK Hydrographic  
Office

## EAST ANGLIA EA10A, EA10B & EA10C – APPROACHES TO LOWESTOFT FOCUSED 2018 ASSESSMENT

An assessment of the 2018 hydrographic survey of the area EA10 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 Department for Transport (including the MCA) and the Ministry of Defence (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 local chart datum, defined using the UKHO VORF Model.

## EA10A, EA10B & EA10C – APPROACHES TO LOWESTOFT, 2018

### 1. SUMMARY

#### Changes Detected

- 1.1 The northern end of Lowestoft Bank is migrating north and beginning to encroach into the channel approaching Lowestoft harbour, with the 5m contour moving 70m since 2016.
- 1.2 The southern end of Holm Sand shows sediment moving primarily to the east with depths generally deeper than 2016.
- 1.3 The north end of Holm Bank has extended north. The 5m contour has moved approximately 400m north into the entrance of Lowestoft North Road.
- 1.4 The southern tip of Holm Bank has extended further south by approximately 60m.

#### Reasons for Continuing to Resurvey the Area

- 1.5 Depths in the area remain mobile and potentially hazardous vessels with a draught of 3m or more navigating the area and therefore require continued monitoring through 3-year resurveys, with focused areas every 1-year.

#### Recommendations

- 1.6 The current full area and focused areas adequately cover all areas of mobile seabed so no revision is required at this time.

### 2. LOCATION

- 2.1 Survey interval at time of resurvey: 3 years full area, 1 years focused.
- 2.2 Area Covered:
  - 2.2.1 Full area: 13.41 km<sup>2</sup>.
  - 2.2.2 Focused area EA10a: 1.38 km<sup>2</sup>
  - 2.2.3 Focused area EA10b: 1.68 km<sup>2</sup>
  - 2.2.4 Focused area EA10c: 1.58 km<sup>2</sup>

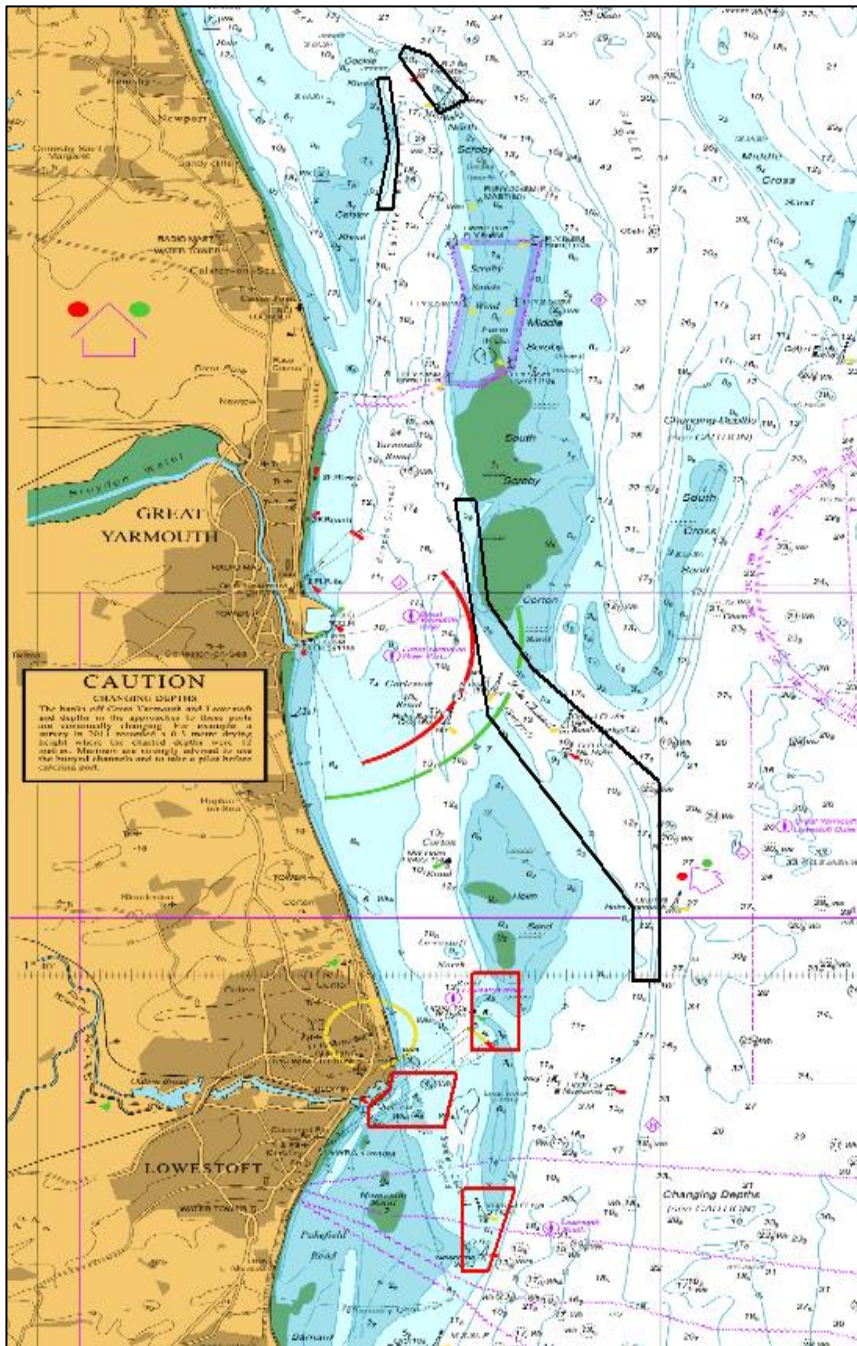


Figure 1 – 2018 East Anglia RRS areas overlaid on BA 1543 with EA10A, EA10B and EA10C areas in red.



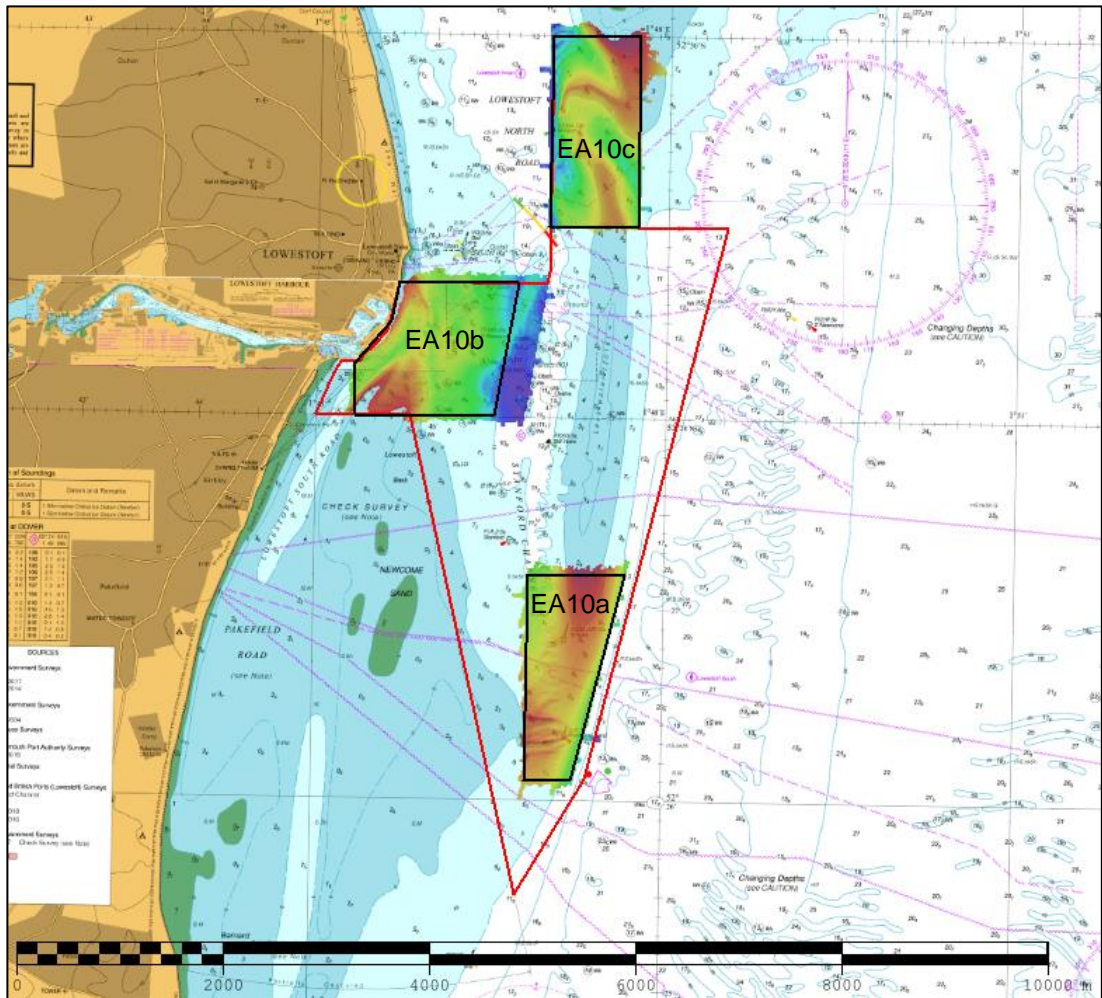


Figure 2 – 2018 survey data sun-illuminated view overlaid on BA Charts 1535 and 1535-1, also showing EA10 full area.

### 3. REFERENCE SURVEY DETAIL

- 3.1 Previous full survey was conducted in September - November of 2016 as part of HI 1521 and focused surveys in November 2017 as part of HI 1545.
- 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 Focused surveys of EA10a, EA10b and EA10c were conducted in October 2018 as part of HIs 1611, 1612 and 1613 respectively.
- 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 EA10a

- 5.1.1 There has been only a moderate change in the surrounding banks from the 2016 and 2017 surveys, with a small movement of the southern end of Holm Bank approximately 60m south.
- 5.1.2 Some minor bedform movements can be seen in figure 4 and 5 below, with depths across the channel entrance generally 0.5 – 1.5m shoaler.

### 5.2 EA10b

- 5.2.1 Since 2016 the northern end of Lowestoft Bank has migrated north and is beginning to encroach into the sector lighted channel approaching Lowestoft harbour, with the 5m contour moving 50m from 2016-17 and a further 20m during 2017-18.
- 5.2.2 Other minor bedform movements can be seen in figure 4 below, but depths are generally consistent.

### 5.3 EA10c

- 5.3.1 No focused area was conducted for EA10c in 2017.
- 5.3.2 Since 2016 the south end of Holm Sand has moved Eastwards with depths generally deepening.
- 5.3.3 The North end of Holm Bank has migrated north, with the 5m contour moving approximately 400m, narrowing the area of deeper water between Holm Sand and Holm Bank and therefore restricting the movements of vessels drafting more than 3m.

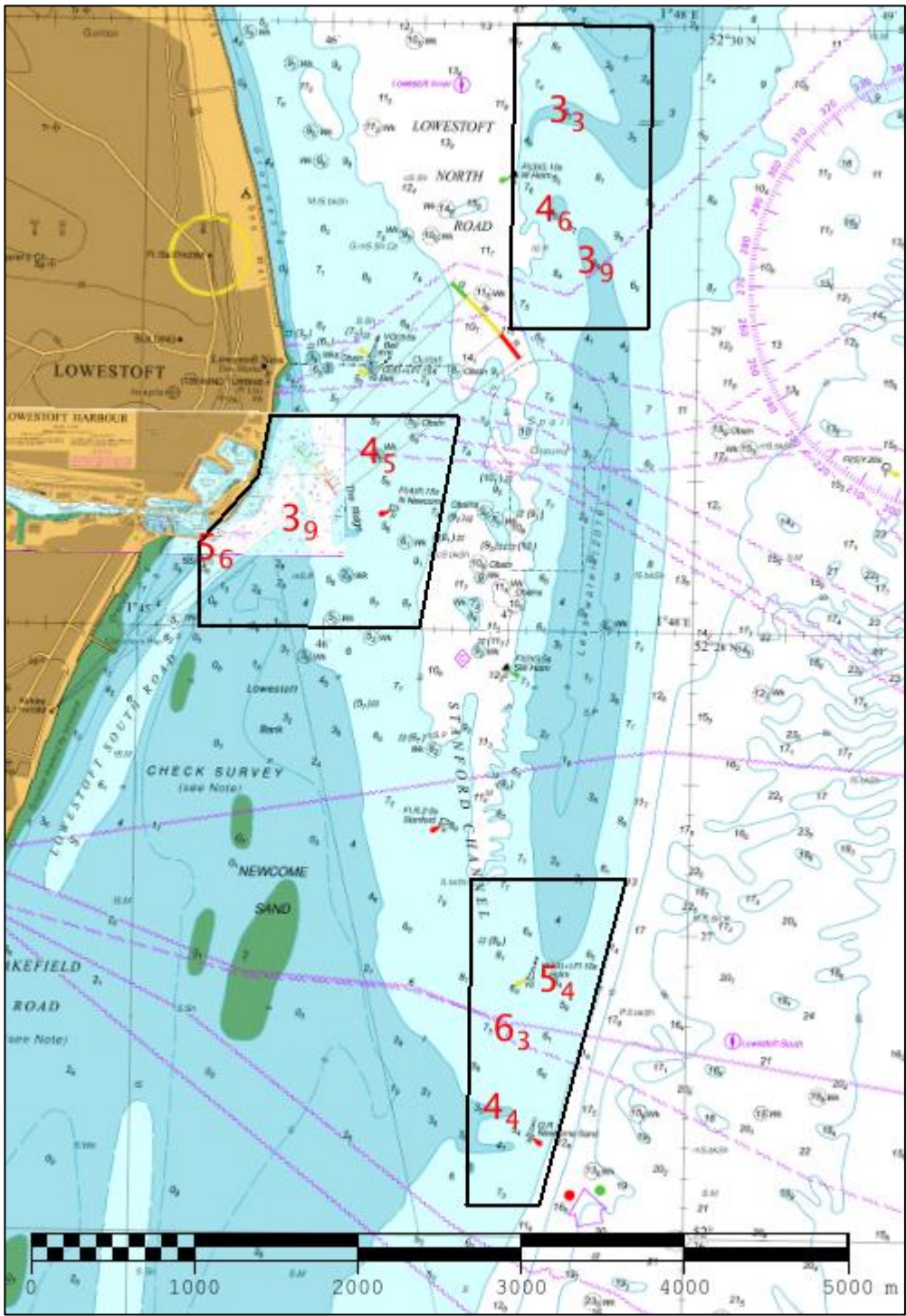


Figure 3 Controlling depths from 2018 survey (shown in red) overlaid on BA Charts 1535 & 1535-1



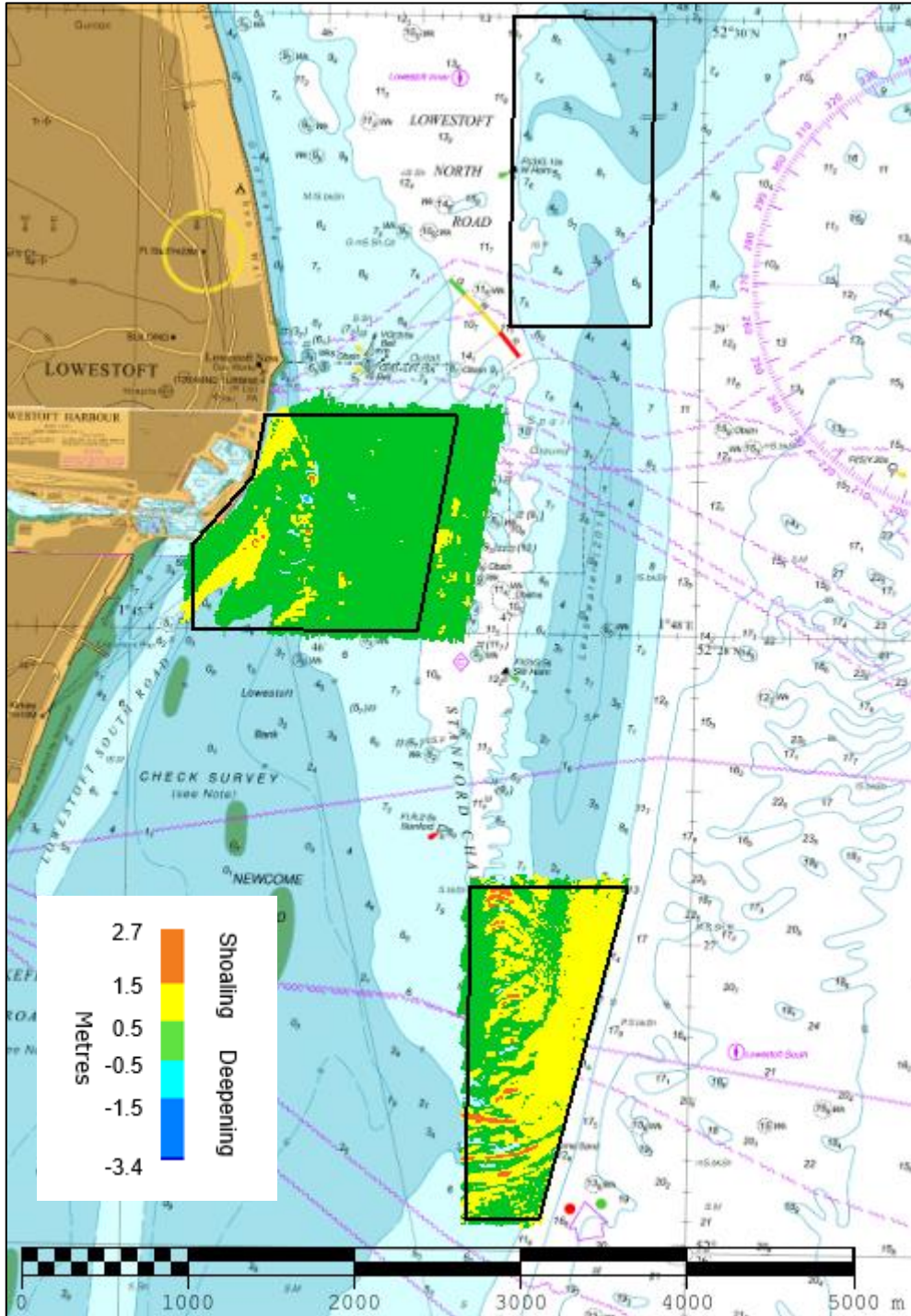


Figure 4 Difference plot 2017 focused area surveys vs 2018 focused area surveys overlaid on BA Charts 1535 & 1535-1

(Note – no survey was done for area EA10C in 2017)



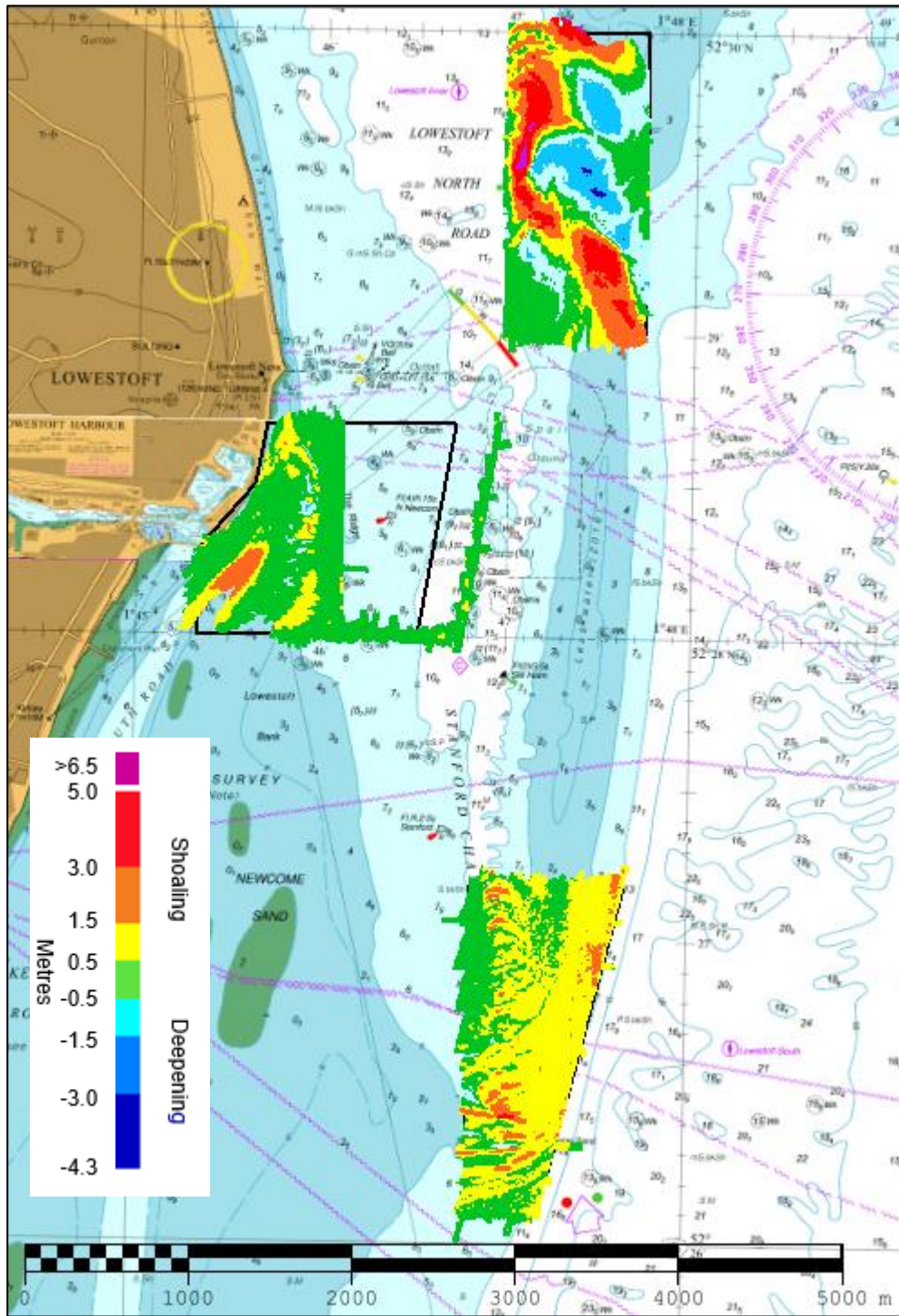
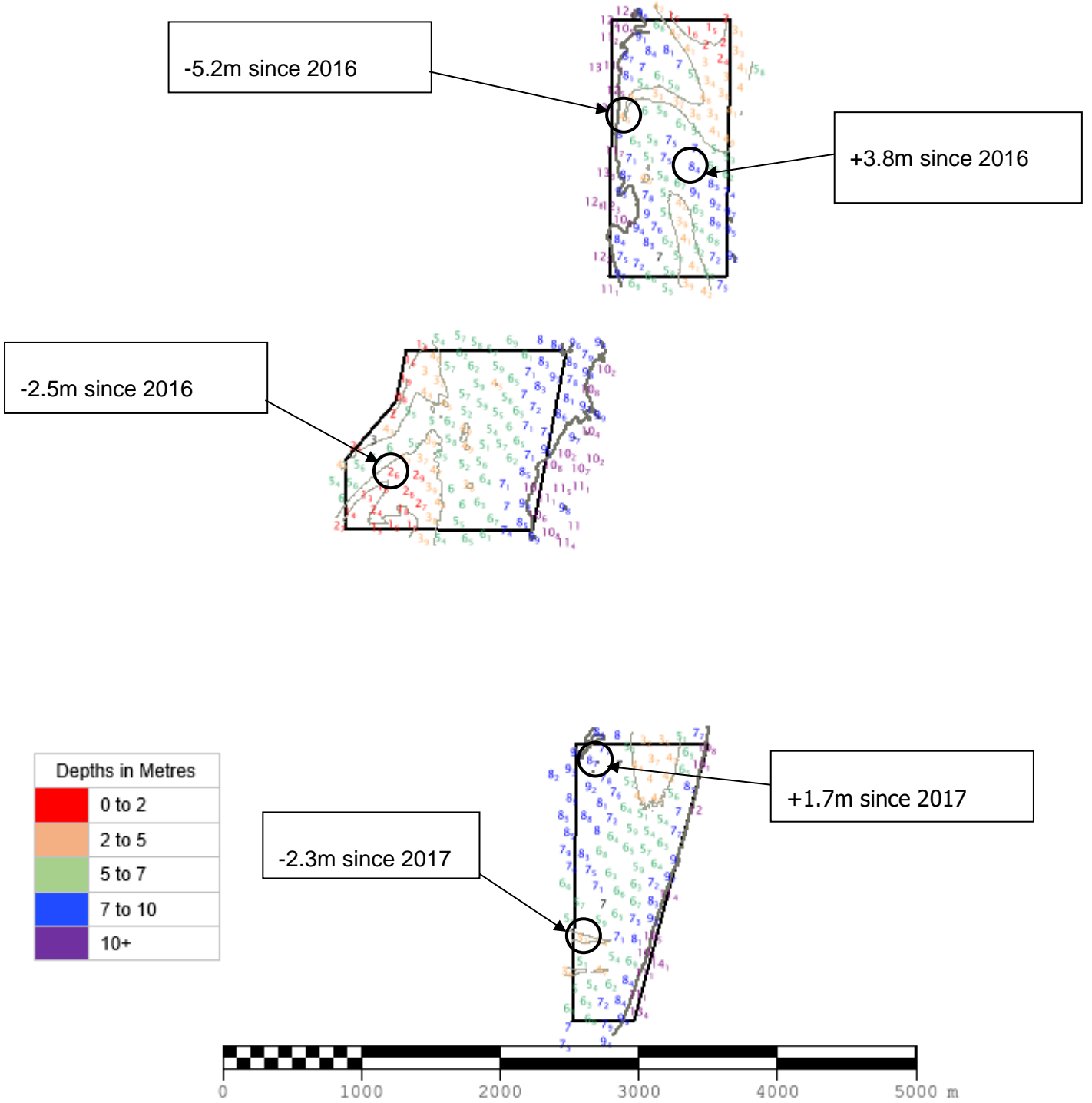


Figure 5 Difference plot 2016 full area survey vs 2018 focused area surveys overlaid on BA Charts 1535 & 1535-1



Positive values (+) represent deepening. Negative values (-) represent seabed depths becoming shallower.

Figure 6 – Colour Banded Depth Plot from the 2018 Survey with selected depth changes since the 2016 full survey and 2017 focused area surveys.

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

### **Survey Interval**

- 6.1 The seabed remains mobile in these areas, which could potentially have an impact on shipping, so the 3-year full area and 1-year focused area intervals can continue.

### **Survey Area**

- 6.2 The current full area and focused areas adequately cover all areas of mobile seabed, so no revision is required at this time.