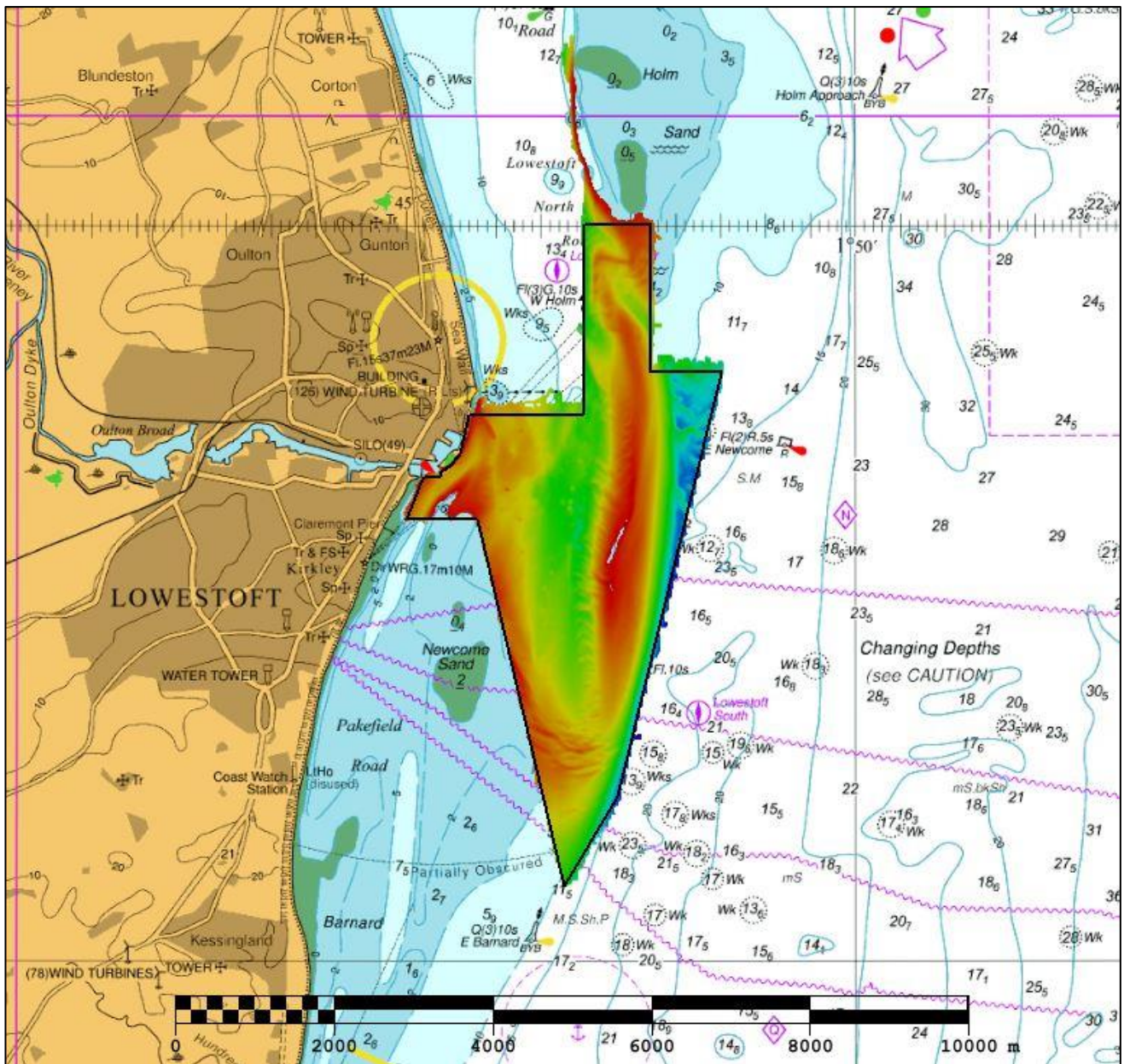




UK Hydrographic Office

EAST ANGLIA APPROACHES TO LOWESTOFT (EA10) 2019 ASSESSMENT

An assessment of the 2019 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 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.

APPROACHES TO LOWESTOFT, 2019

1. SUMMARY

Changes Detected

- 1.1 The southern tip of Holm Bank is showing slight movement south since the 2018 focused survey.
- 1.2 The 2m contour at the northern tip of Lowestoft Bank is migrating north and is encroaching upon the sector lighted channel. The 5m contour is migrating south since the 2018 focused survey.
- 1.3 Holm Bank is continuing its migration north, whilst the southern tip of Holm Sand is also moving north.
- 1.4 Stability is seen in the western half of EA10 since 2016, whilst the eastern half is shoaling and sandwaves are moving in a north easterly direction.

Reasons for Continuing to Resurvey the Area

- 1.5 Depths in the area remain mobile and potentially hazardous to vessels navigating the area, therefore continued monitoring through 3-year full surveys and 1-year focused surveys are required.

Recommendations

- 1.6 The current full 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 year focused areas.
- 2.2 Area Covered: 14.71 km²

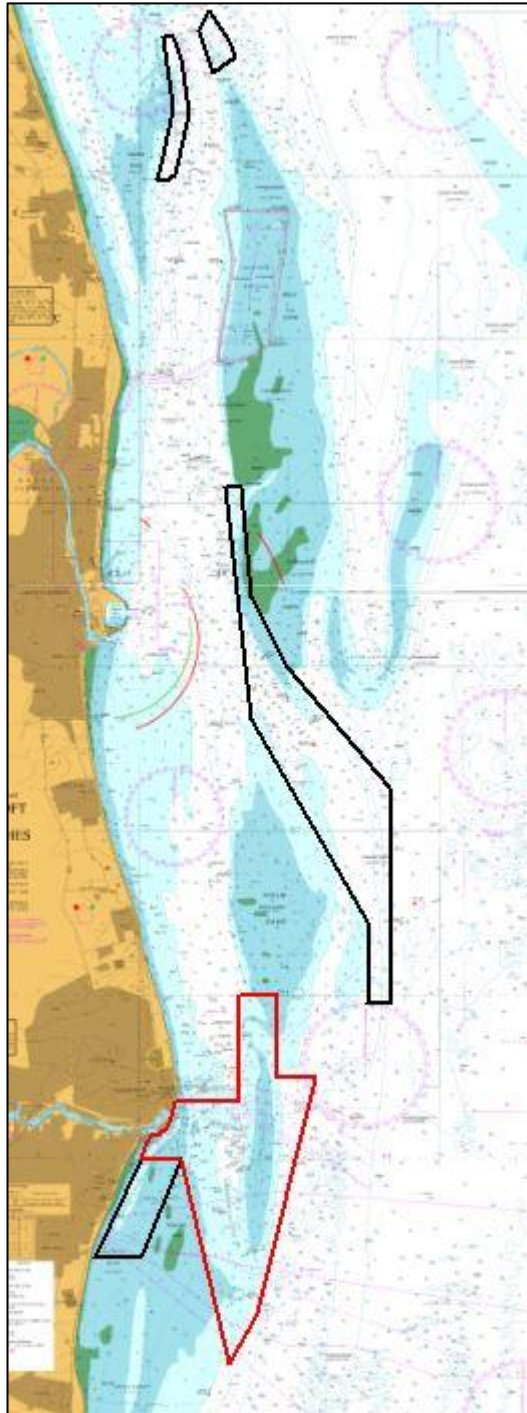


Figure 1: 2019 East Anglia Routine Resurvey areas overlaid on BA Charts 1534 and 1535 with area EA10 in red

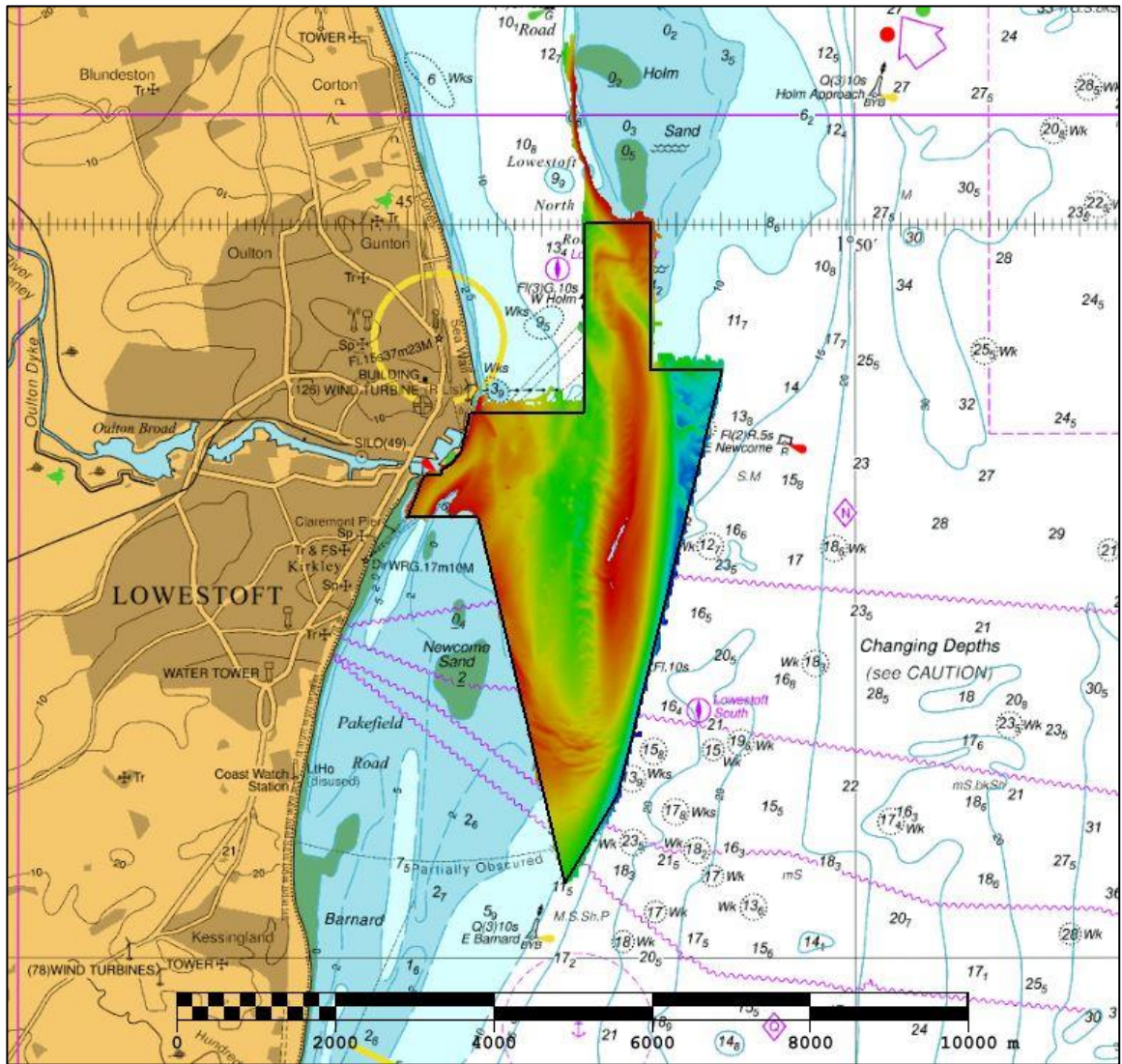


Figure 2: 2019 survey data overlaid on BA Chart 1543

3. REFERENCE SURVEY DETAIL

- 3.1 The previous full survey was conducted September – November 2016 as part of HI1521 and the previous focused surveys were conducted in October 2018 as part of HI1611, HI1612 and HI1613 respectively.
- 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 2019 Routine Resurvey Programme between September and October 2019 as part of HI1639.
- 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 There is a small movement south of the southern tip of Holm Bank approximately 40m since the 2018 focused survey. The surrounding banks show minor change as seen in figure 5.
- 5.2 Figure 12 shows the northern tip of Lowestoft Bank the 2m contour has migrated approximately 40m north since the 2018 focused survey and is starting to encroach upon the sector lighted channel. However, the 5m contour on the north of Lowestoft Bank has migrated south approximately 60m south in the same period. The remaining area surrounding Lowestoft harbour shows little change since the 2018 focused survey as seen in figure 6.
- 5.3 Figure 11 shows Holm Bank continuing its migration north with the 5m contour moving approximately 80m. The southern tip of Holm Sand has also migrated north with the 5m contour moving approximately 190m at its furthest extent. This has maintained the size of the area of deeper water between Holm Bank and Holm Sand but has pushed it northwards.
- 5.4 Stability can be seen in the western half of EA10 since the last full survey in 2016, as seen in figure 8. On the eastern half depths are generally shoaling with movement of sandwaves north-easterly.

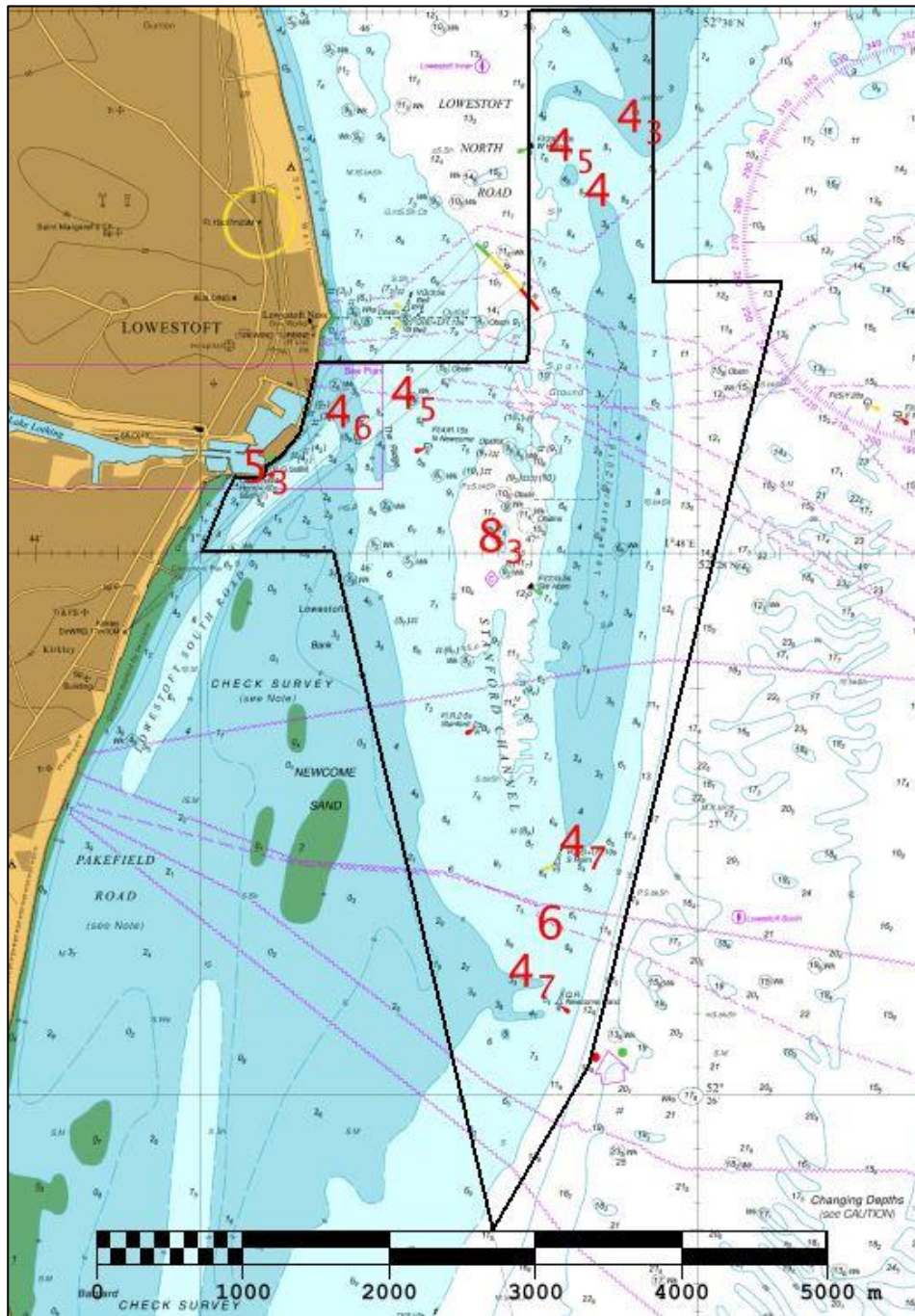


Figure 3: Controlling and significant depths from the 2019 survey overlaid on BA charts 1534 and 1535.

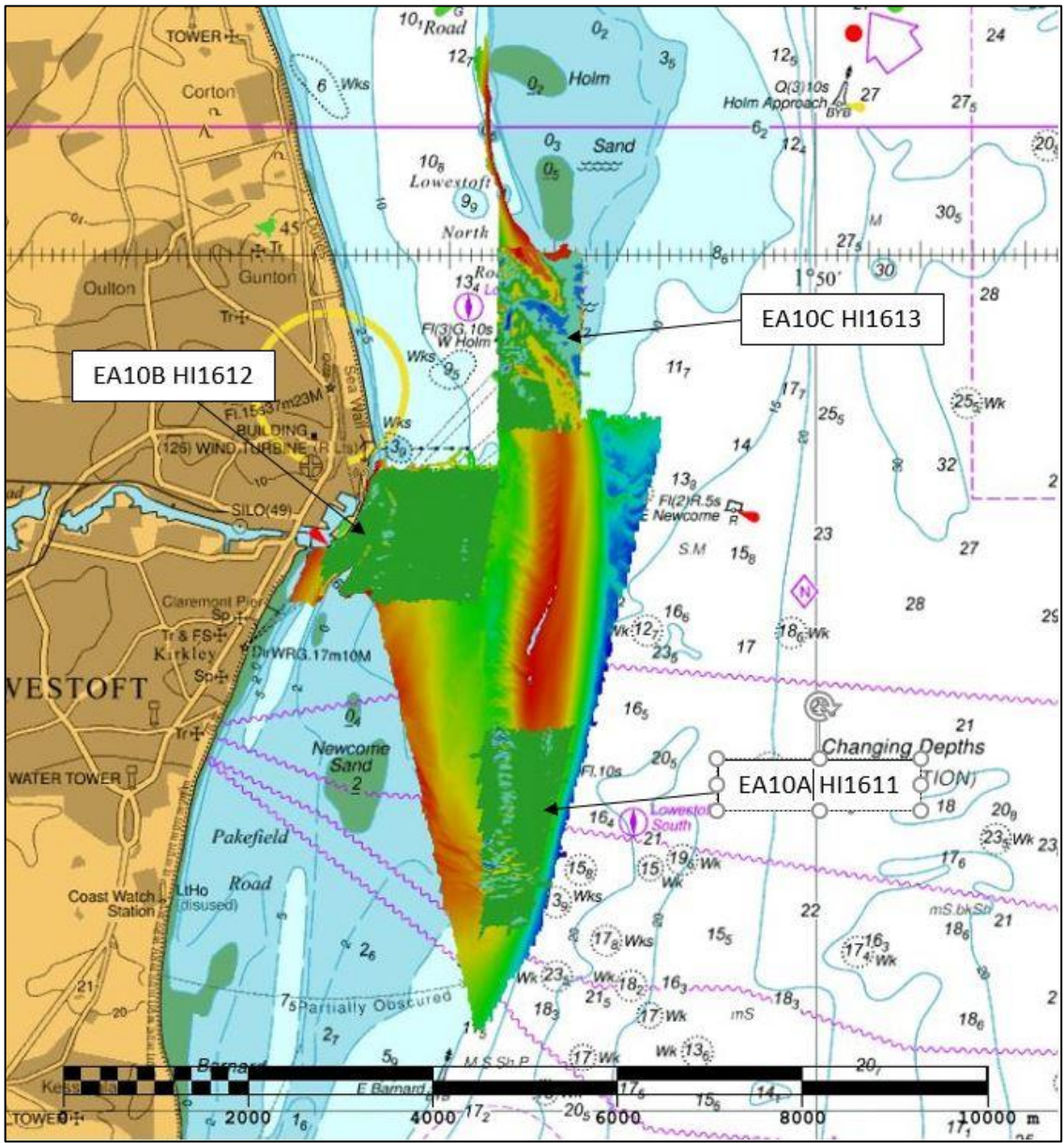


Figure 4: Overview of the difference surfaces showing bathymetric changes between the 2018 and 2019 surveys overlaid on BA Chart 1543

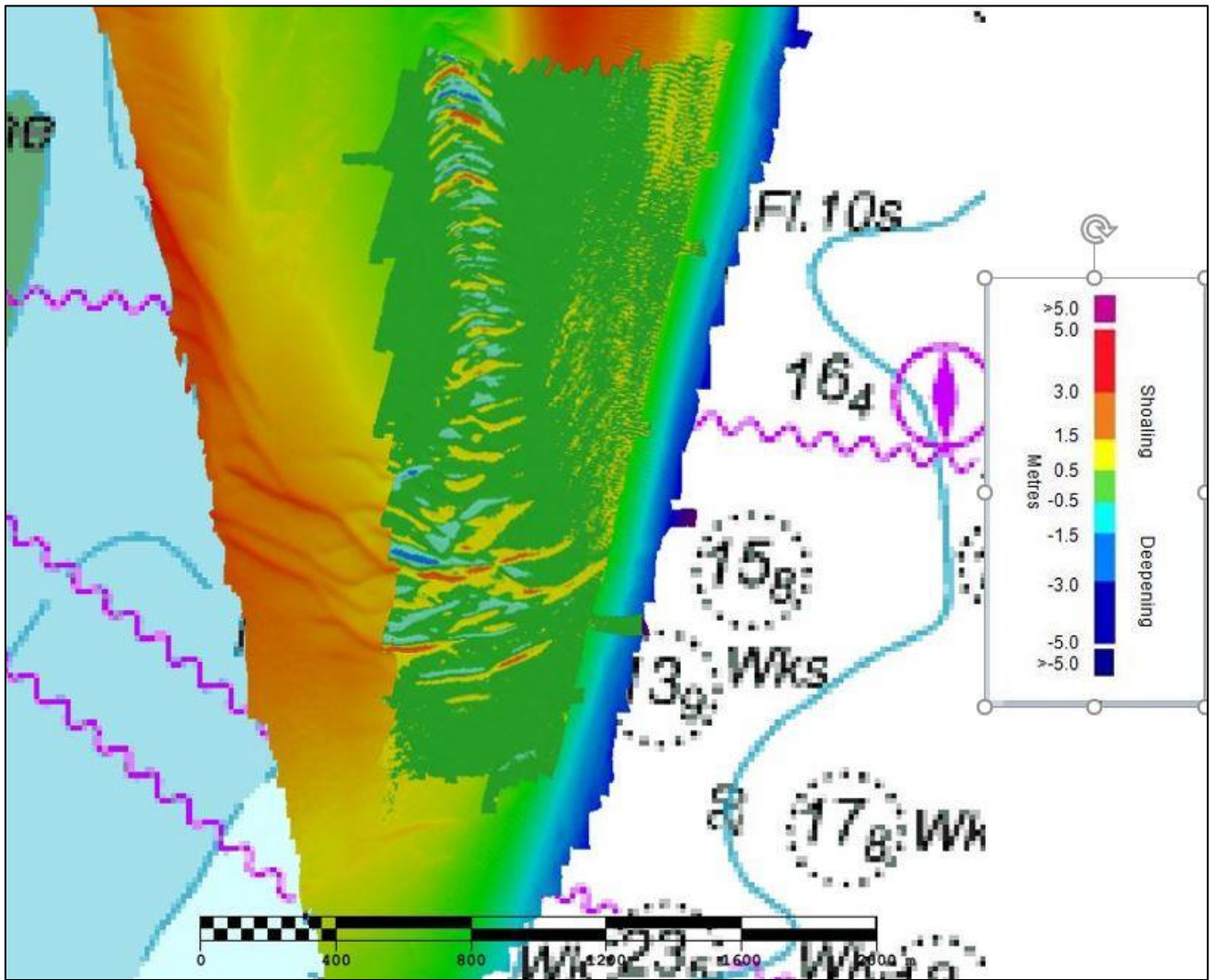


Figure 5: Difference surface showing bathymetric changes between the 2018 EA10a and 2019 EA10 surveys overlaid on BA Chart 1543

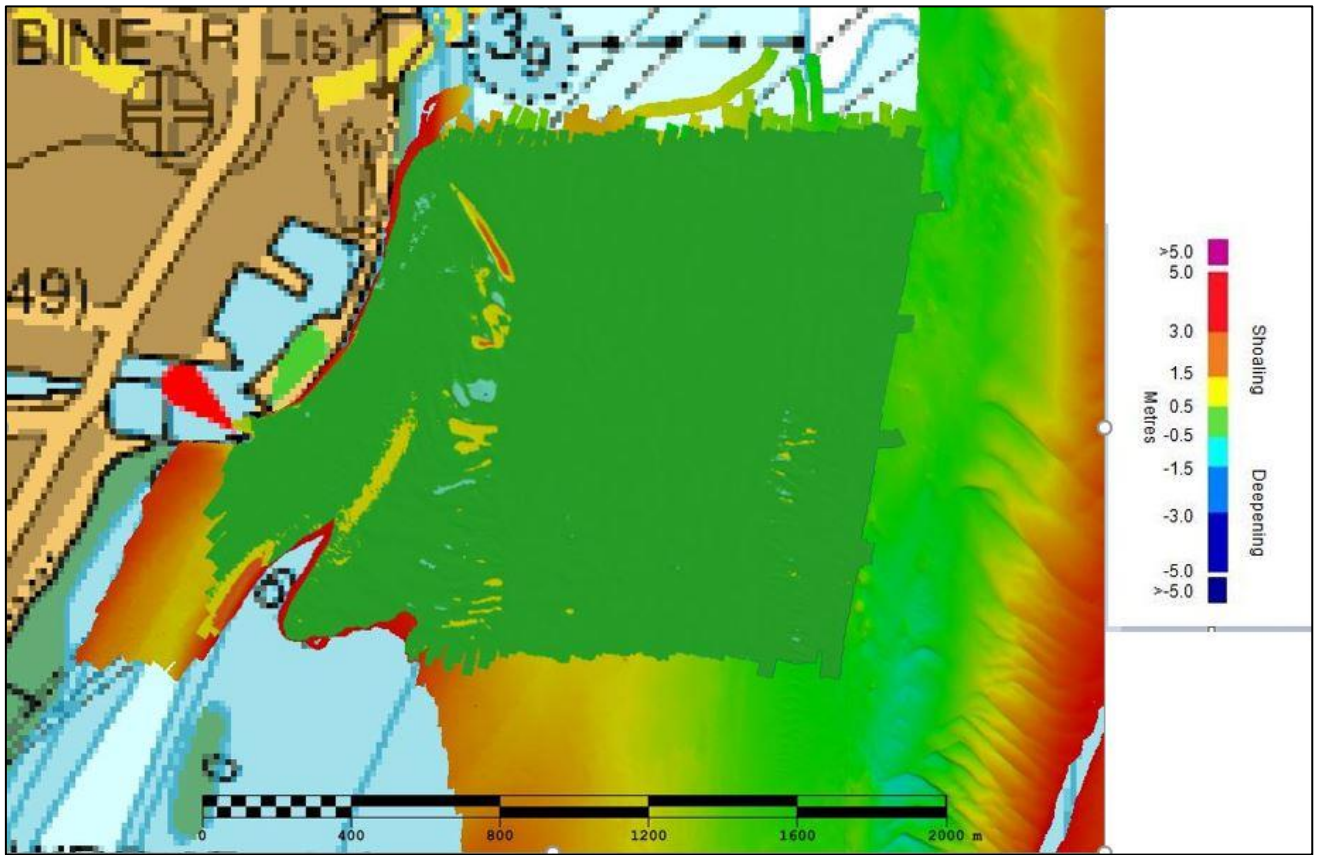


Figure 6: Difference surface showing bathymetric changes between the 2018 EA10b and 2019 EA10 surveys overlaid on BA Chart 1543

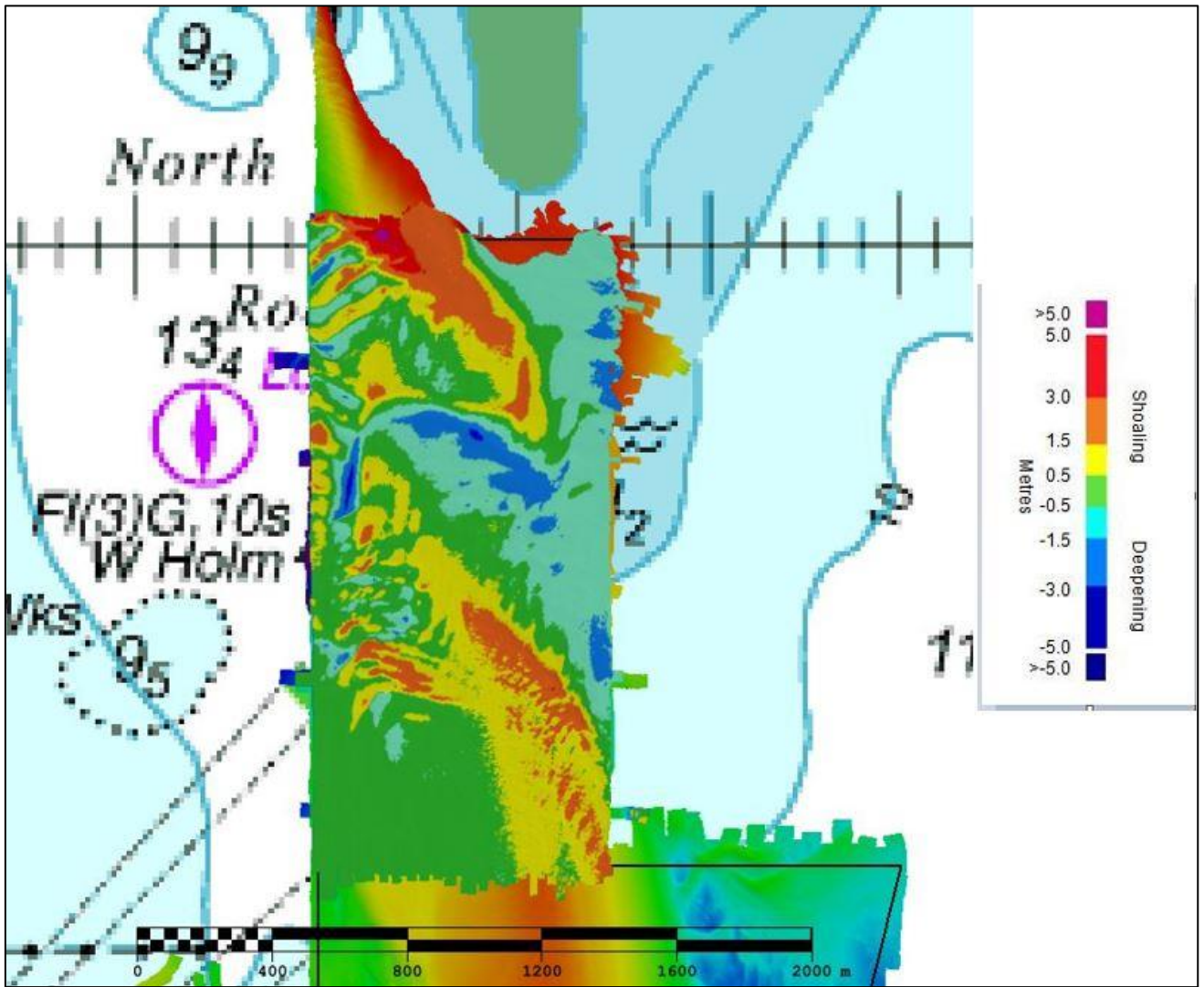


Figure 7: Difference surface showing bathymetric changes between the 2018 EA10c and 2019 EA10 surveys overlaid on BA Chart 1543

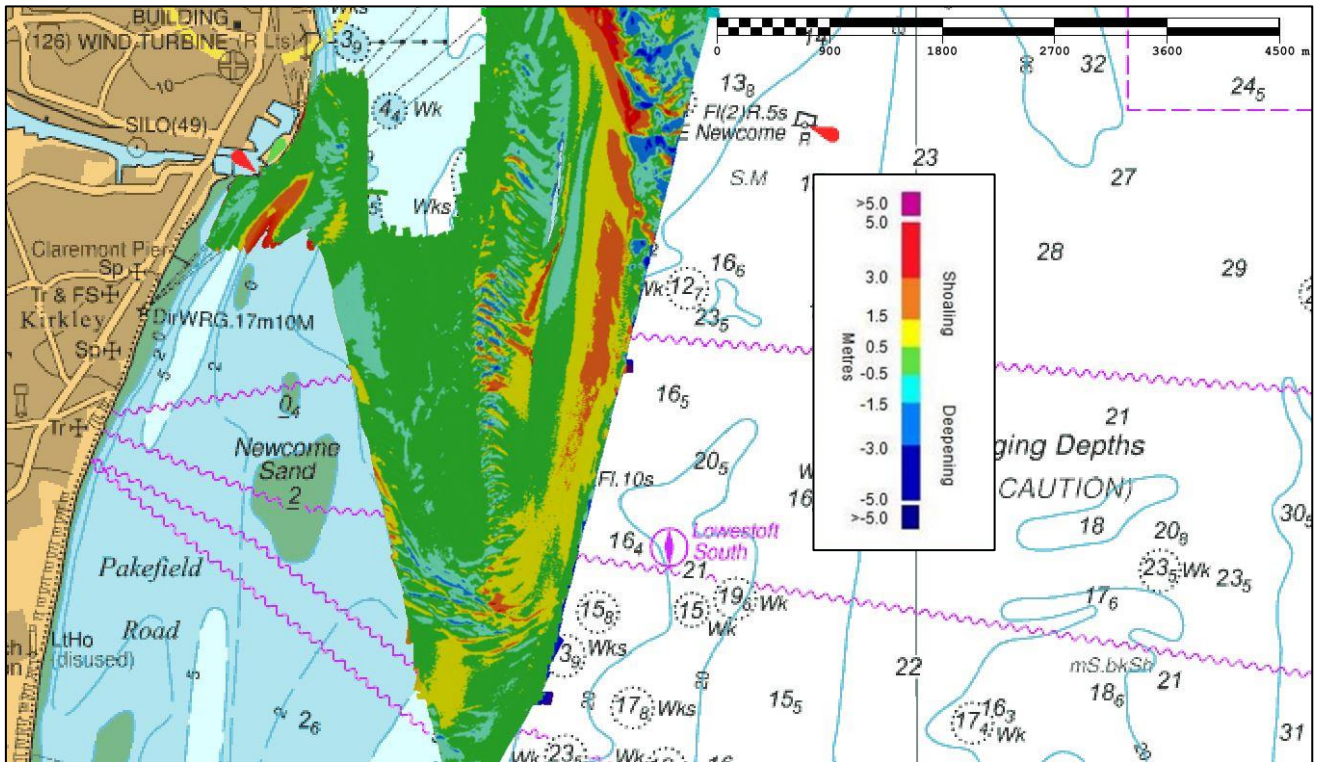


Figure 8: Difference surface showing bathymetric changes between the 2016 EA10 and 2019 EA10 surveys overlaid on BA Chart 1543

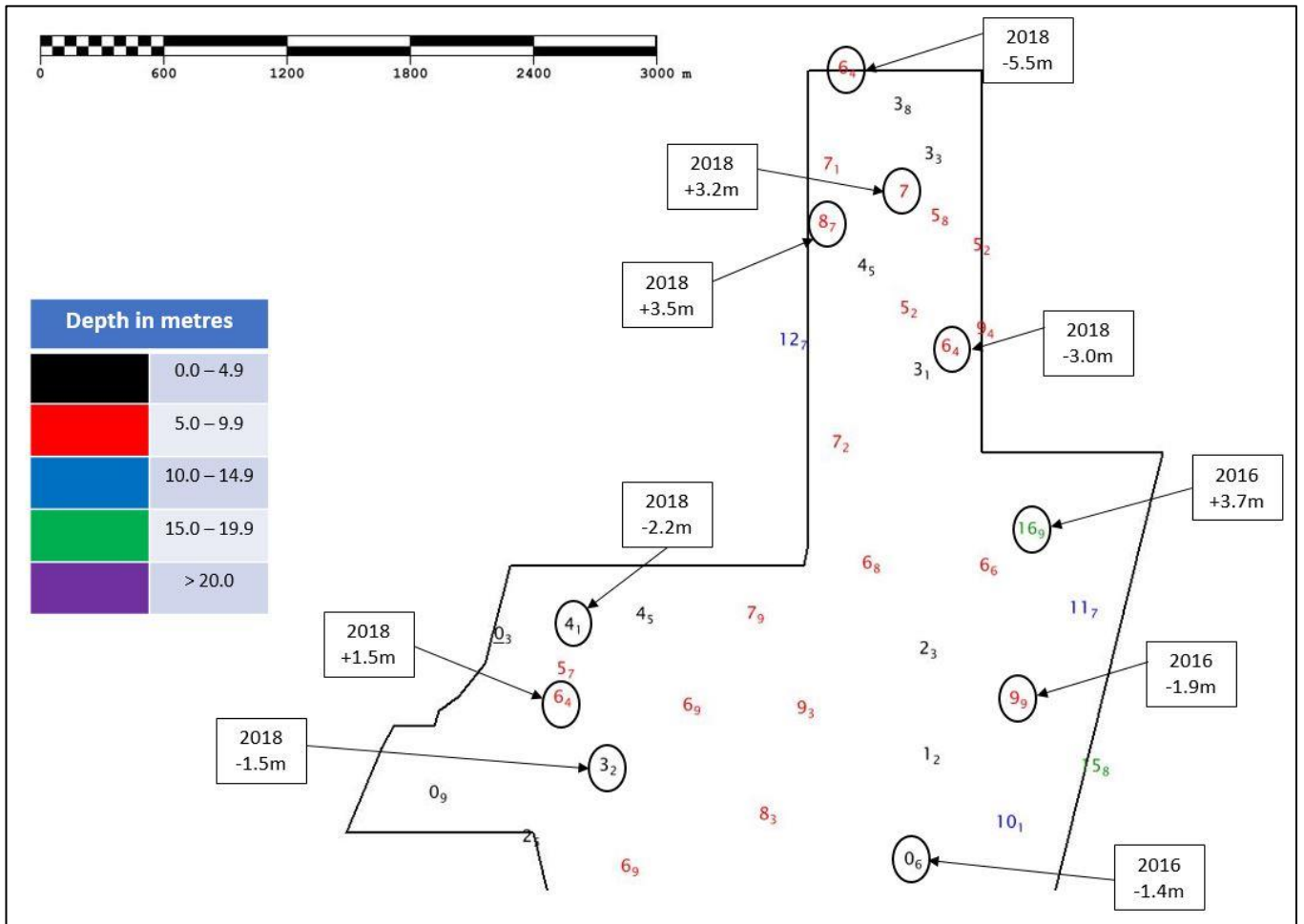


Figure 9: Colour banded depth plot from the 2019 survey with selected depth changes since the 2018 and 2016 surveys. Positive values (+) represent deepening. Negative values (-) represent shoaling.

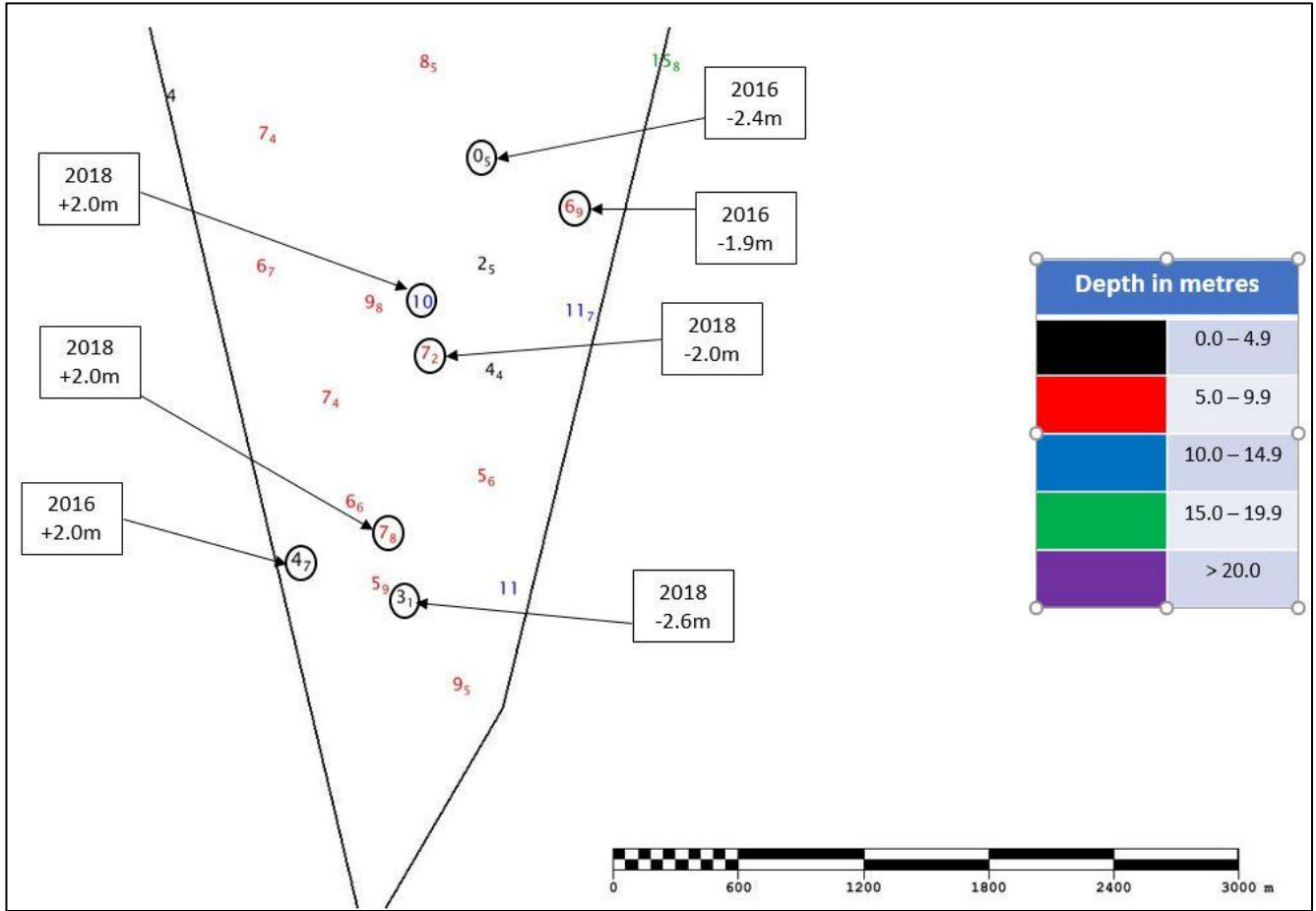


Figure 10: Colour banded depth plot from the 2019 survey with selected depth changes since the 2018 and 2016 surveys. Positive values (+) represent deepening. Negative values (-) represent shoaling.

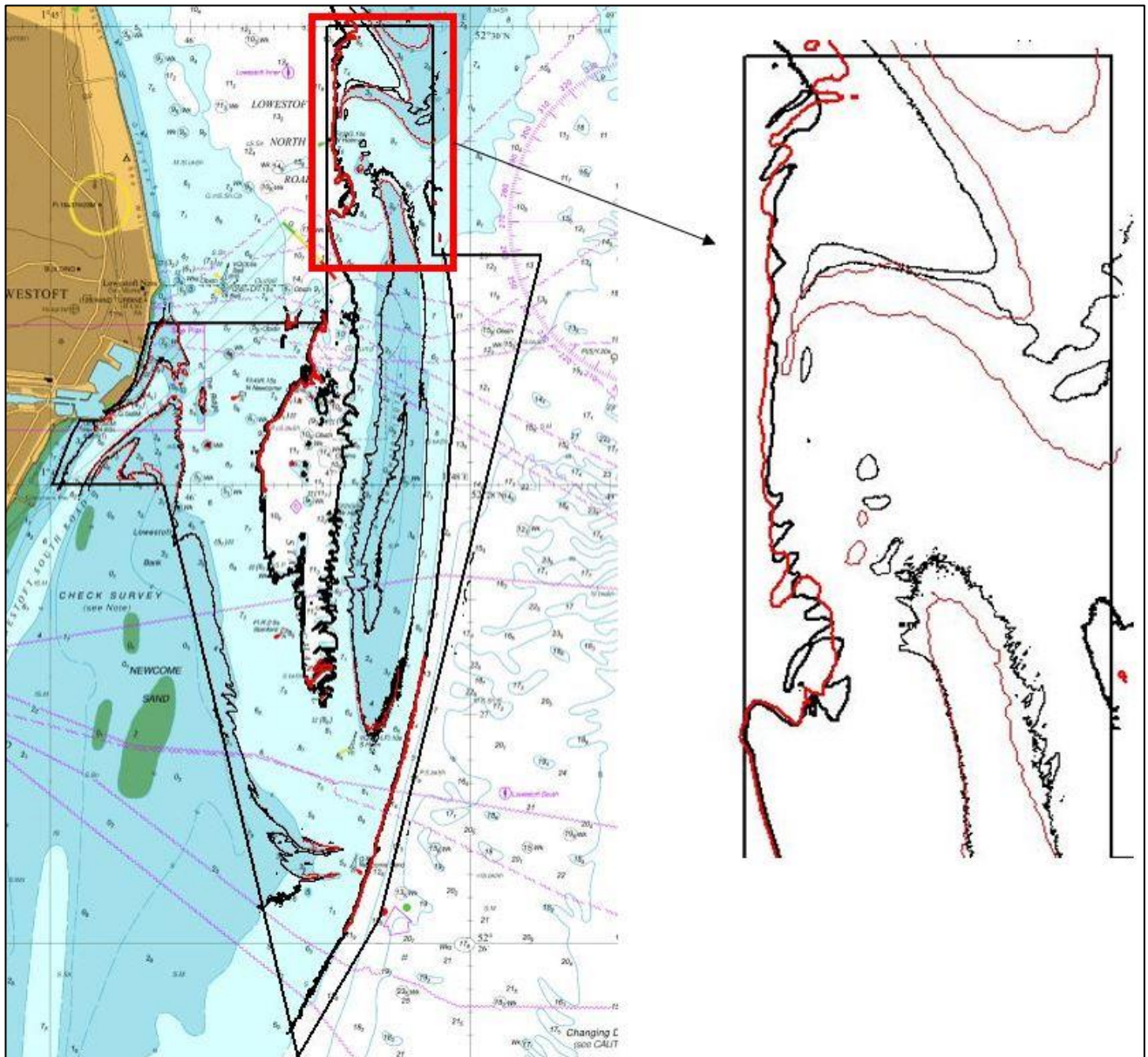


Figure 11: Contour plot showing the movement of contours since the 2018 focused survey. 2018 focused survey contours displayed in red, and the 2019 full survey contours in black.

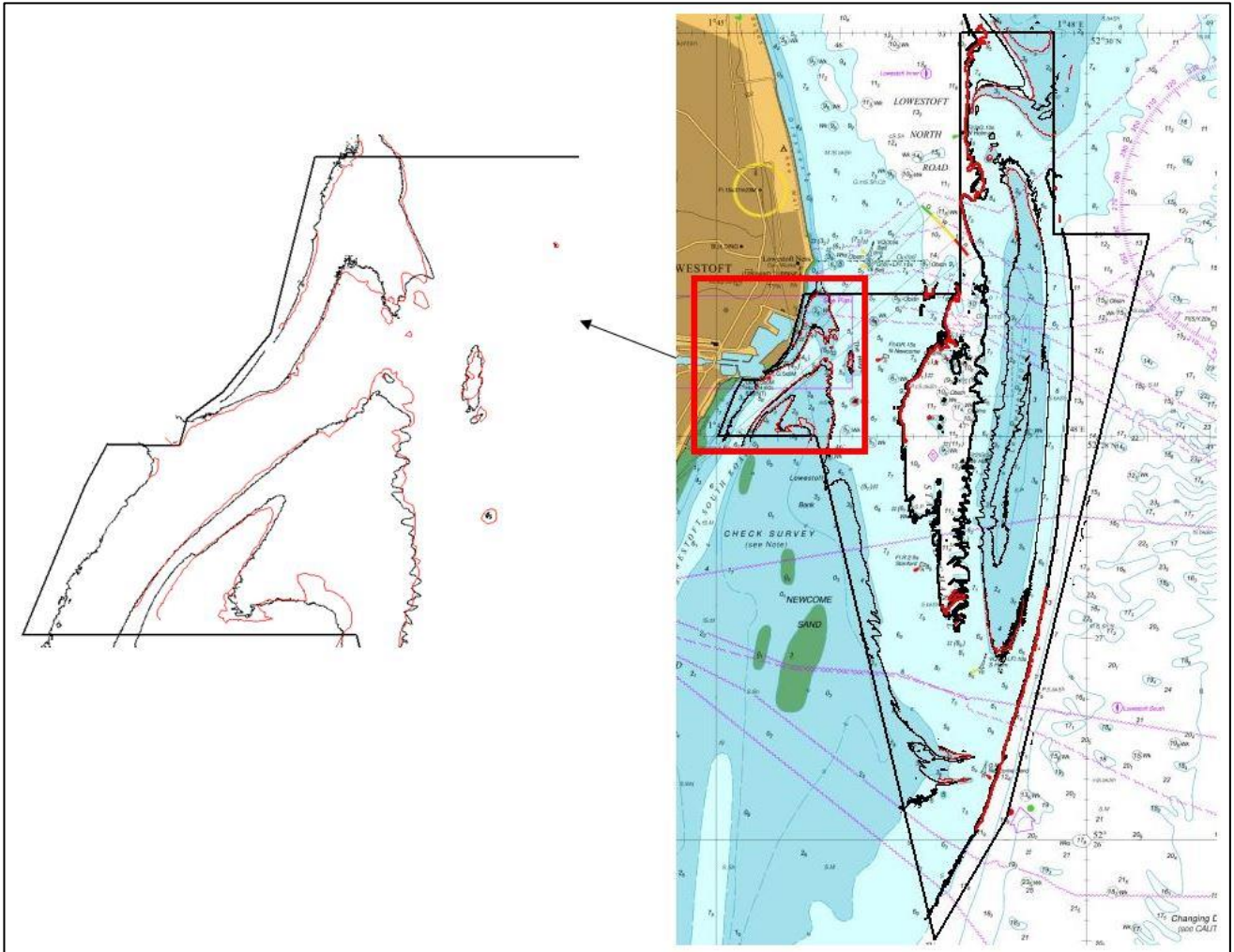


Figure 12: Contour plot showing the movement of contours since the 2018 focused survey. 2018 focused survey contours displayed in red, and the 2019 full survey contours in black.

6. RECOMMENDATIONS FOR FUTURE SURVEYS

Survey Interval

- 6.1 Given the location of the area and the mobility of the seafloor, the 3-year full area and 1-year focused area intervals should remain the same.

Survey Area

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