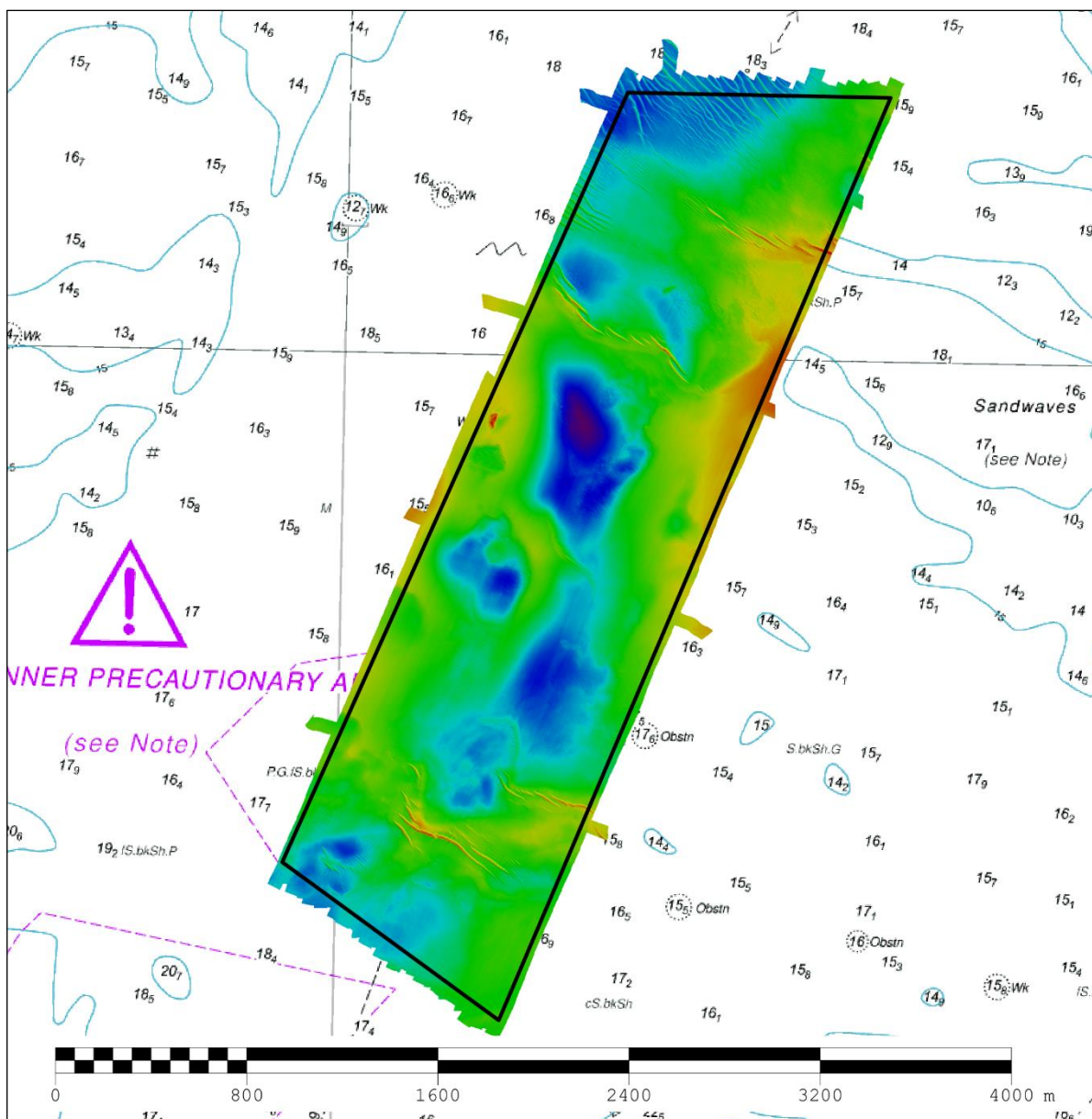




UK Hydrographic
Office

THAMES ESTUARY SUNK DW FOCUSED AREA (TE5A) 2019 ASSESSMENT

An assessment of the 2019 hydrographic survey of the area TE5A: 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.

SUNK DW FOCUSED AREA, 2019

1. SUMMARY

Changes Detected

- 1.1 Sand waves in the southern end of the survey area have generally migrated towards the south and sand waves in the north of the survey area have migrated northwards. The controlling depth in the centre of the channel has reduced by 0.1m, and there has also been slight shoaling in other locations.

Reasons for Continuing to Resurvey the Area

- 1.2 Depths in the area remain close to the draught of larger vessels which transit the area, and bedforms in the area are dynamic and therefore likely to lead to changing depths. The survey area follows a deep-water route so is a critical area for navigation of larger vessels. There has been slight shoaling in the channel since the previous survey.

Recommendations

- 1.3 The survey interval should be retained at 1 year.
- 1.4 The survey limits should remain the same.

2. LOCATION

- 2.1 Survey interval at time of resurvey: 1 years
- 2.2 Area Covered: 4.59 km²

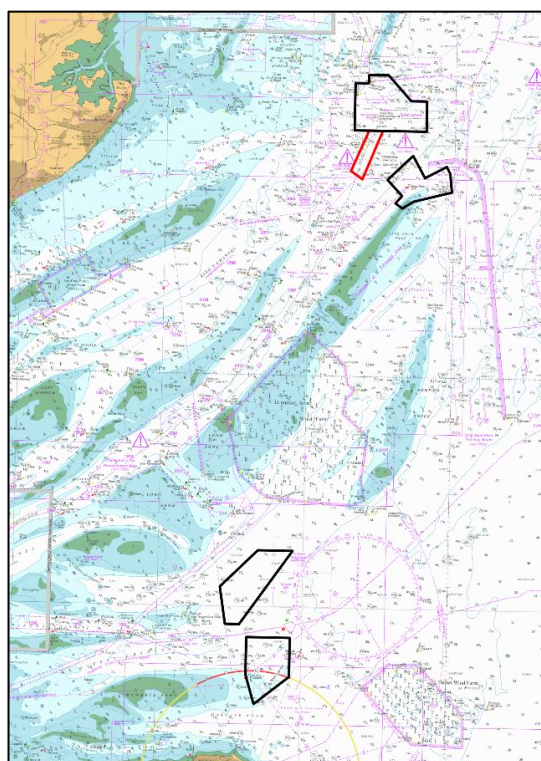


Figure 1: 2019 Thames Estuary Routine Resurvey areas overlaid on BA Chart 1183 with area TE5A Sunk DW Focused in red

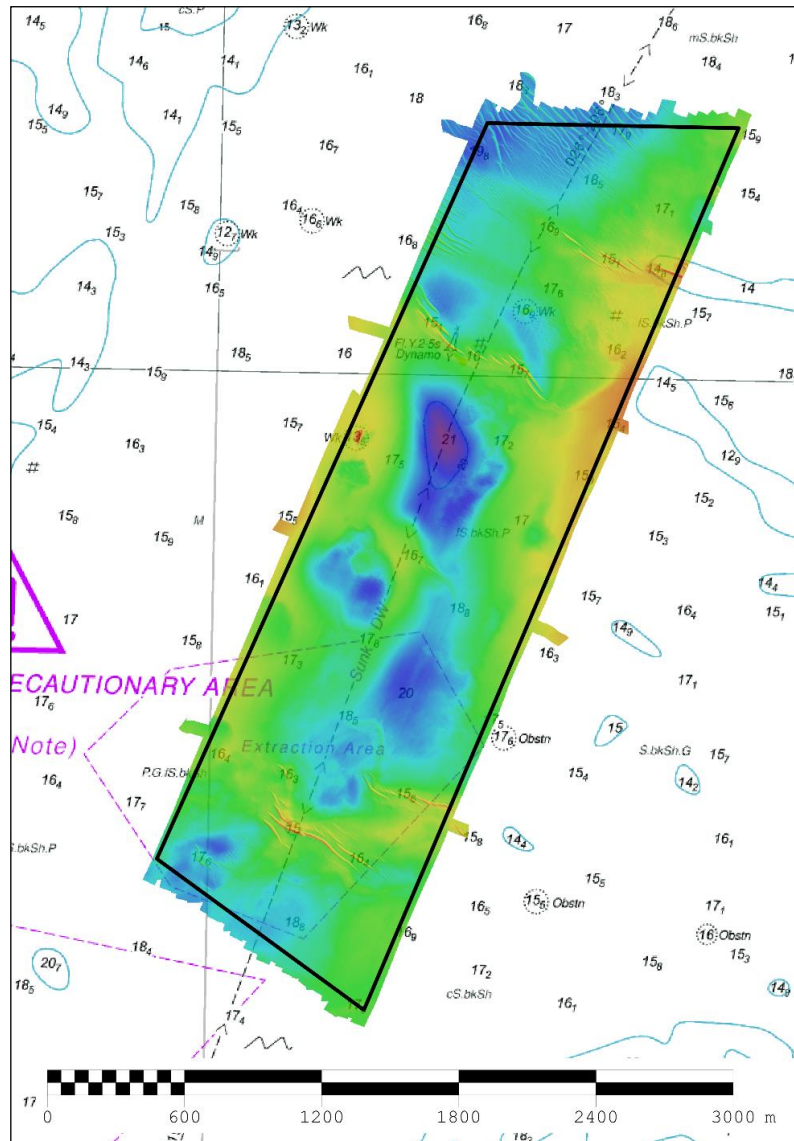


Figure 2: 2019 survey data overlaid on BA Chart 2692

3. REFERENCE SURVEY DETAIL

- 3.1 HI1642 was surveyed on the 25th August 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 HI1615 was surveyed between 5th November 2018 and 11th December 2018.
- 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 that much of the survey area has remained stable. It also highlights the areas of sand waves located throughout the survey area. In the south of the survey area the sand waves have migrated in a south-west direction by approximately 12m. In the far north of the survey area the waves have also migrated south-west, while the sand waves more centrally located have migrated in a north-east direction.
- 5.2 Figure 3 also shows that, in general, the seabed throughout the survey area has remained constant with the only major changes corresponding to sand wave migration.
- 5.3 The depth plot in Figure 4 shows that the controlling centre channel depth in the 2019 survey is 14.9m, located at the southern end of the area – a reduction of 0.1m in the channel when compared to the currently charted controlling depth of 15m very close to this location. Further significant depths throughout the survey area range from 14.2m to 15.1m in areas that generally follow the patterns of sand waves. Other significant depths have become shallower since the 2018 survey – including 15.7m reducing to 15.1m (currently charted very close by) east of the Dynamo Buoy in the centre of the channel.

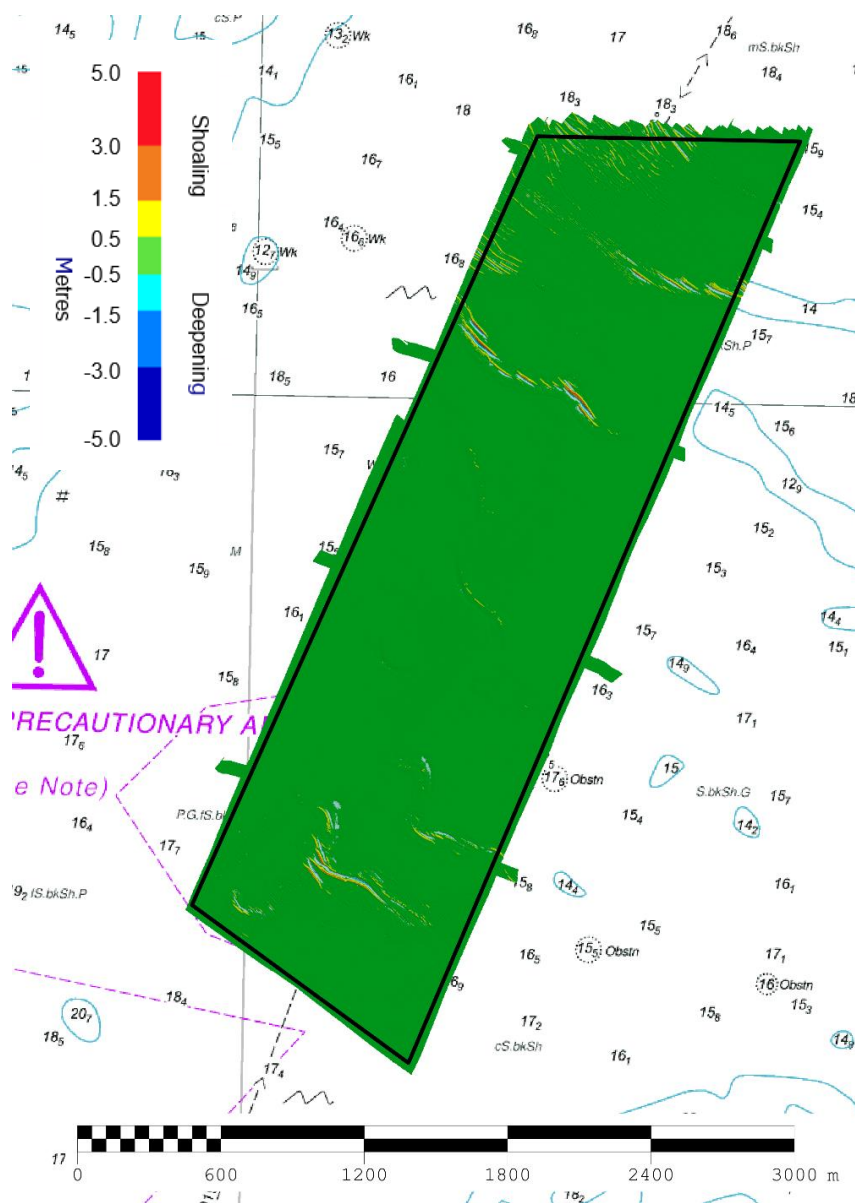


Figure 3: Difference surface showing bathymetric changes between the 2018 and 2019 surveys overlaid on BA Chart 2692

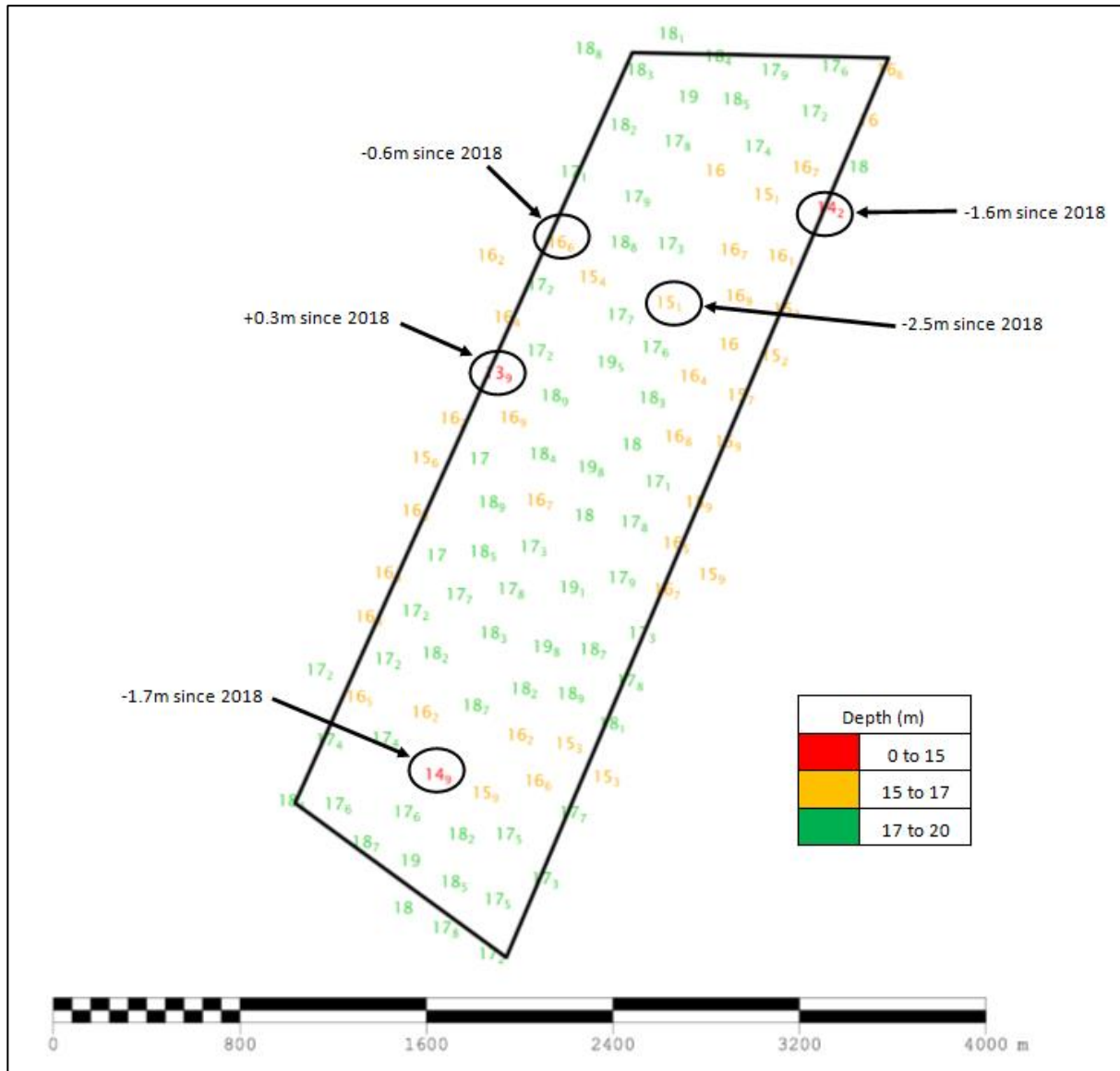


Figure 4: Colour banded depth plot from the 2019 survey with selected depth changes since the 2018 survey. Positive values (+) represent deepening. Negative values (-) represent shoaling.

6. RECOMMENDATIONS FOR FUTURE SURVEYS

Survey Interval

6.1 Given that the controlling depth in the centre of the channel has become deeper and that other significant depths have also become slightly shoaler, it is recommended that the survey interval be retained at 1 year.

Survey Area

6.2 The survey area should remain the same as the northern extents where changes to seabed occur adjoin the survey area for TE3A Sunk. The southern extents are more stable so do not need extending.