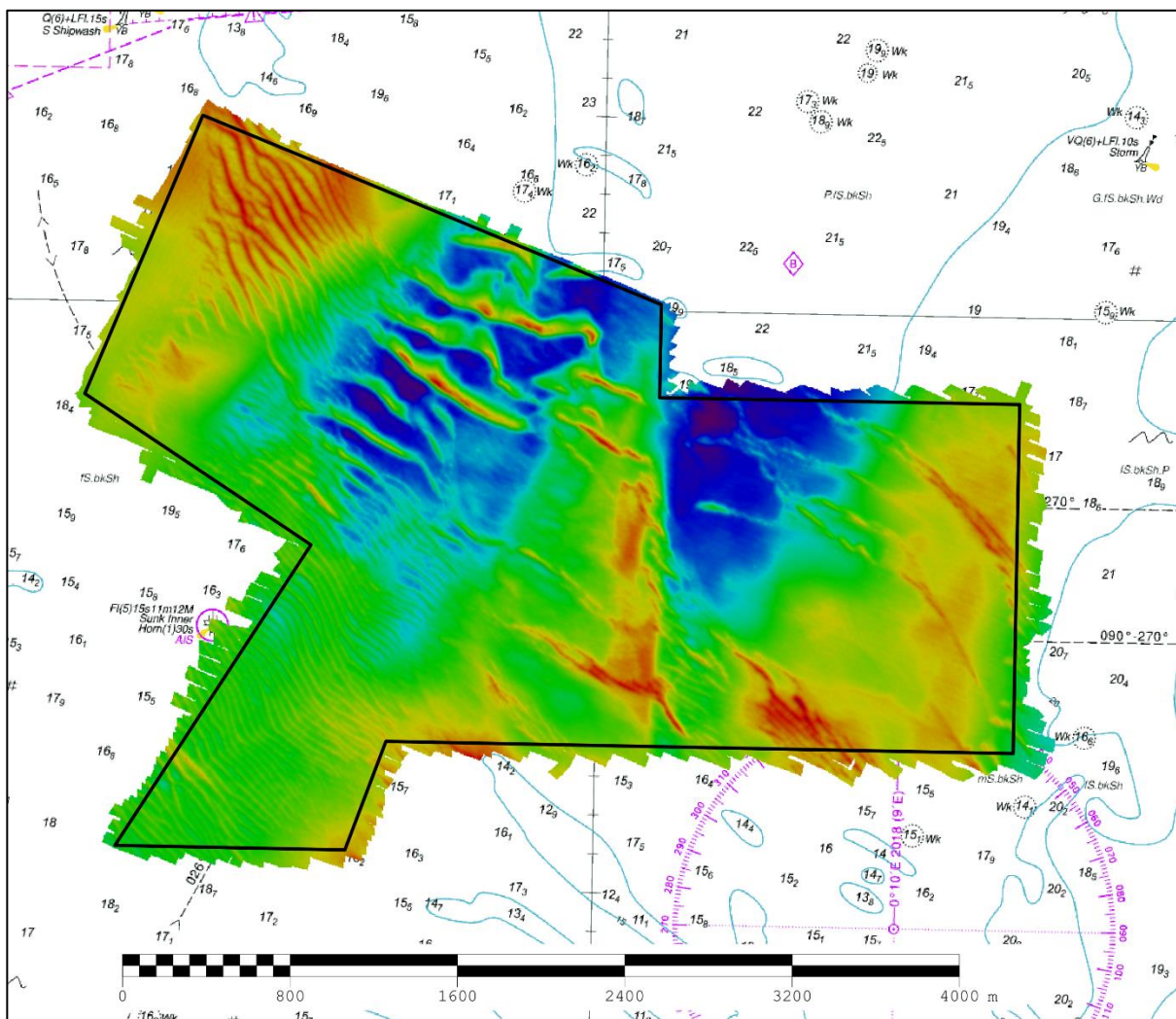




UK Hydrographic
Office

THAMES ESTUARY SUNK FOCUSED AREA (TE3A) 2018 ASSESSMENT

An assessment of the 2018 hydrographic survey of the area TE3A Sunk Focused 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

THAMES ESTUARY, TE3A, 2018

1. SUMMARY

Changes Detected

- 1.1 Sandwaves have moved in a southwest direction since 2016, which is consistent with historical bedform movement. Depths have changed by up to 3.3m in the last year due to sandwave migration but controlling depths have generally deepened.

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. The sandwave areas which appear to be moving more significantly are migrating towards the charted deep-water routes.

Recommendations

- 1.3 The 1-year focused survey area should be retained.
- 1.4 The survey limits should remain unchanged.

2. LOCATION

- 2.1 Survey interval at time of resurvey: 1 year focused (2 years full)
- 2.2 Area Covered: 10.18km²

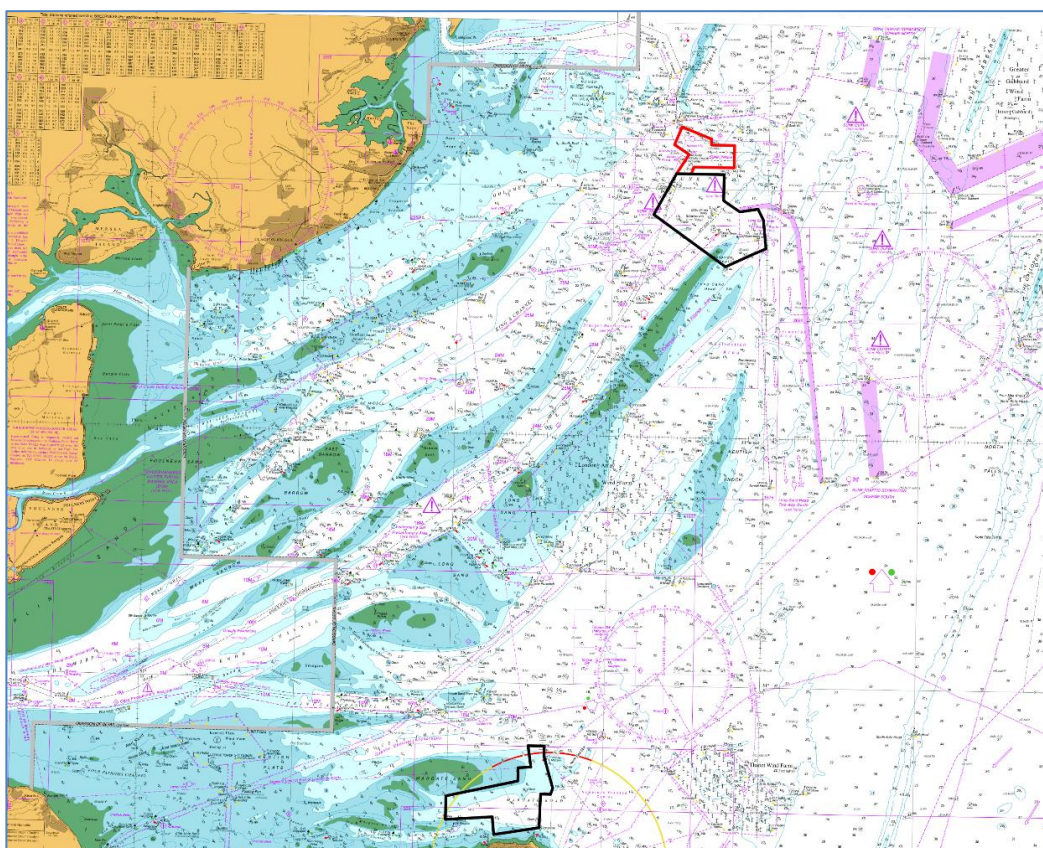


Figure 1: 2018 Thames Estuary Routine Resurvey areas overlaid on BA Chart 1183 with area TE3A in red

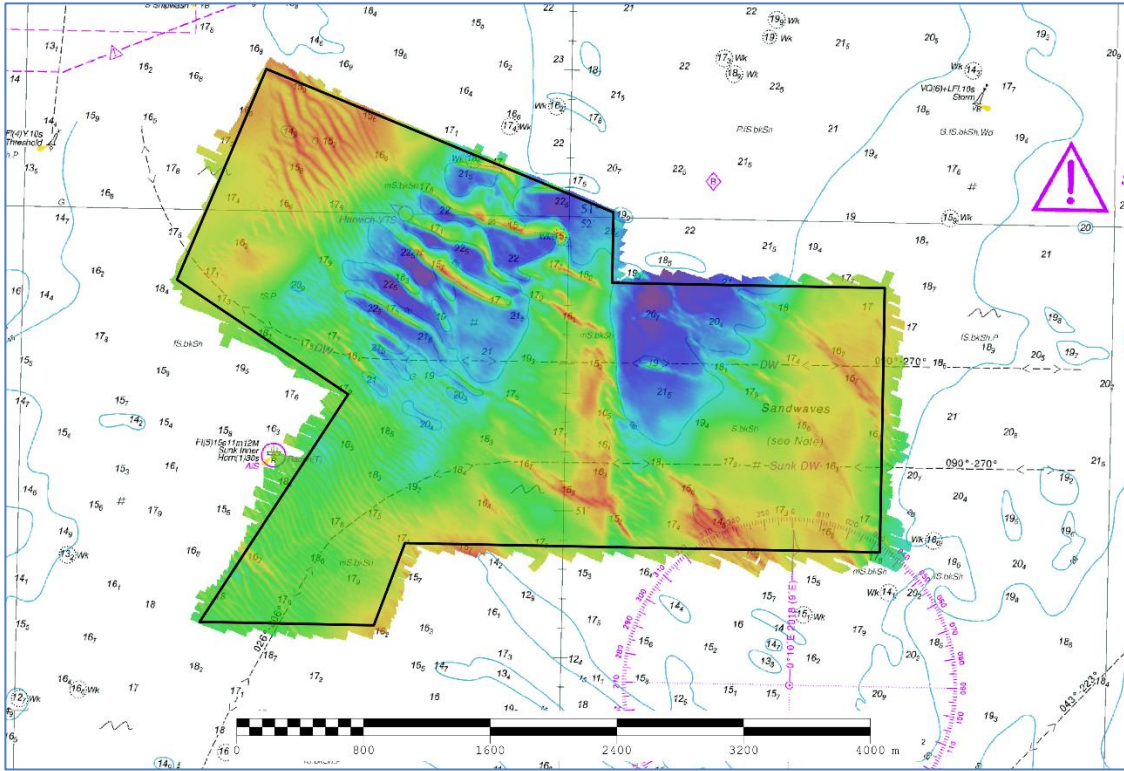


Figure 2: 2018 survey data overlaid on BA Chart 2692

3. REFERENCE SURVEY DETAIL

- 3.1 HI 1614 and was surveyed between 25th October 2018 and 5th November 2018
- 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 HI 1522 was surveyed between 4th July and 29th October 2016.
- 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 the magnitude of the change in bedforms between the 2017 and 2018 surveys. It shows that the prominent sand waves in the North of the survey area are migrating in a southwest direction, gradually getting closer to the Harwich Deep Water Route. This migration is consistent of bedform movement in previous years.
- 5.2 Figure 3 also shows that, in general, the seabed area to the South of Harwich Deep Water Route has remained fairly constant, with some areas of deepening and fewer areas of shoaling. This appears to be consistent with the data from previous years.
- 5.3 The depth plot in Figure 4 shows that the controlling depth in the 2018 survey is 14.8m, located South of the Sunk Deep Water Route. Further controlling depths in the range 15.0 to 15.8m have been highlighted and are all in relatively proximity to the Deep Water Routes. These controlling depths have all deepened since 2017.

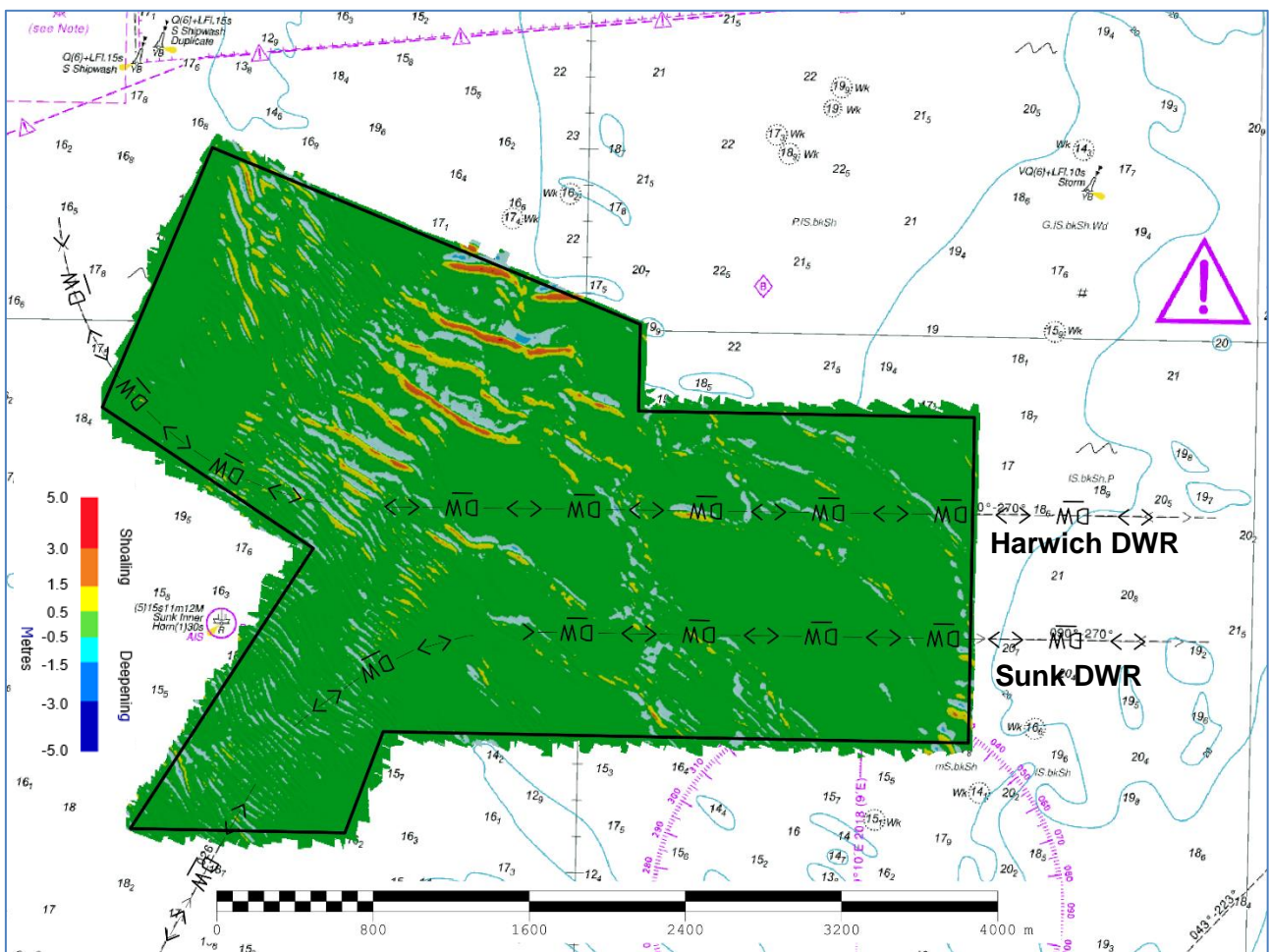


Figure 3: Difference surface showing bathymetric changes between the 2017 and 2018 surveys overlaid on BA Chart 2692 (Black arrows represent sandwave migration since 2017 survey)

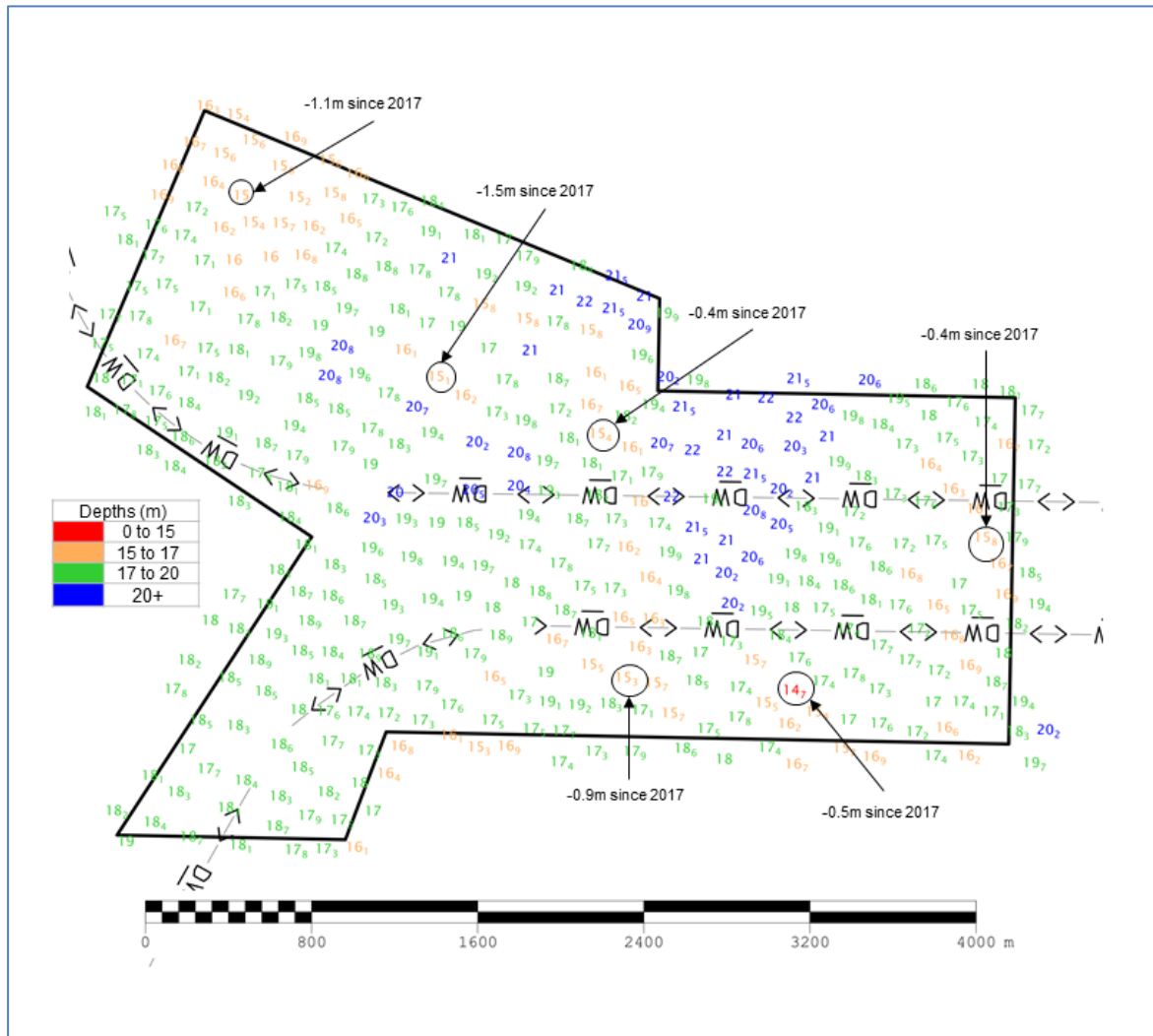


Figure 4: Colour banded depth plot from the 2018 survey with selected depth changes since the 2017 survey. Positive values (+) represent deepening. Negative values (-) represent shoaling.

6. RECOMMENDATIONS FOR FUTURE SURVEYS

Survey Interval

6.1 Despite much of the survey area remaining consistent in the last year, there is obvious migration of sandwaves in a southwest direction, encroaching on charted Deep Water Routes. Therefore, the 2-year frequency for full surveys, with focused survey in the intervening year, should be retained.

Survey Area

6.2 The full and focused survey limits should be retained to ensure the location and depth of sandwaves are adequately charted.