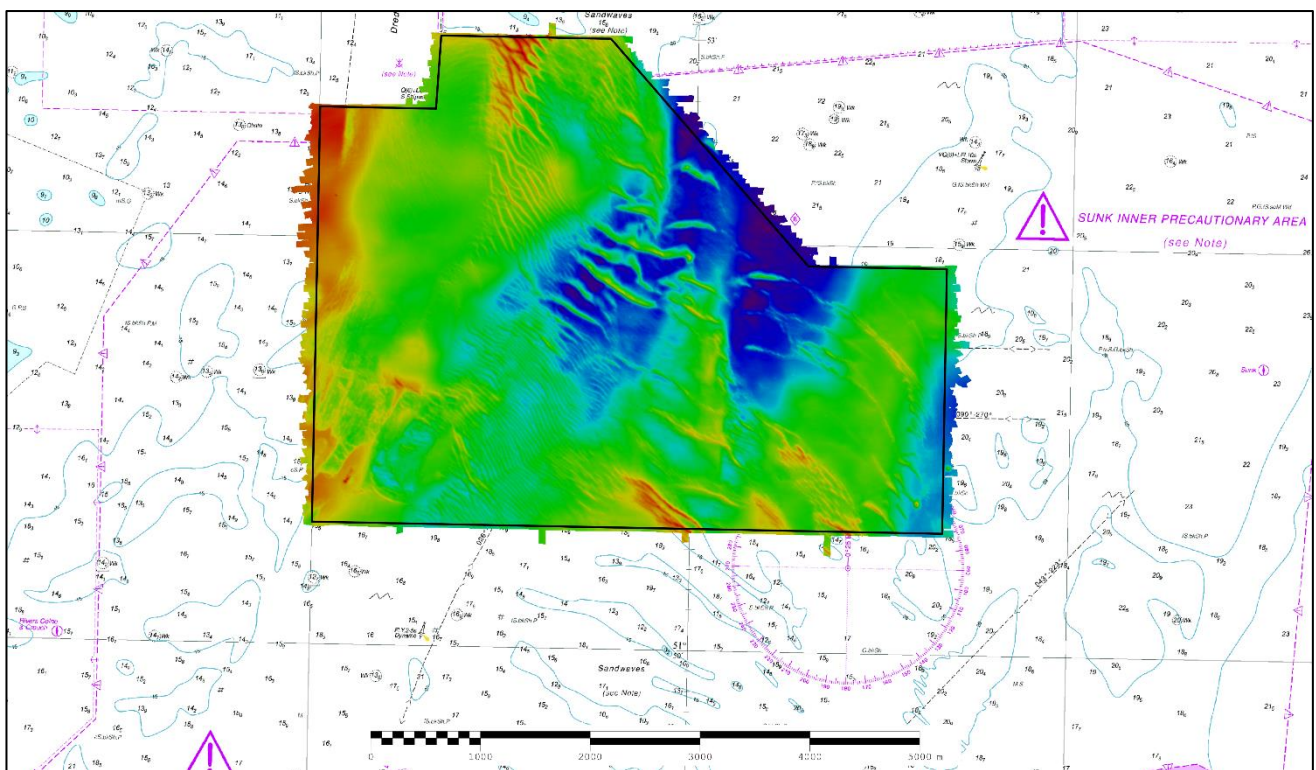




UK Hydrographic
Office

THAMES ESTUARY SUNK (TE3A) 2019 ASSESSMENT

An assessment of the 2019 hydrographic survey of the area TE3A Sunk 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.

1. SUMMARY

Changes Detected

- 1.1 Sandwaves have continued to move in a south-westerly direction which is consistent with previous surveys of the area. There has been changes in depths along the deep-water routes, but this has not significantly affected the controlling depths in these areas. There has been some shoaling to the south of the Sunk Deep-Water route. Depths remain stable in the remainder of the area.

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 from the north to the south-west towards the charted Harwich Deep-Water Route.

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: 2 years for full survey, with focussed survey in the intervening year.
- 2.2 Area Covered: 20.3 km²

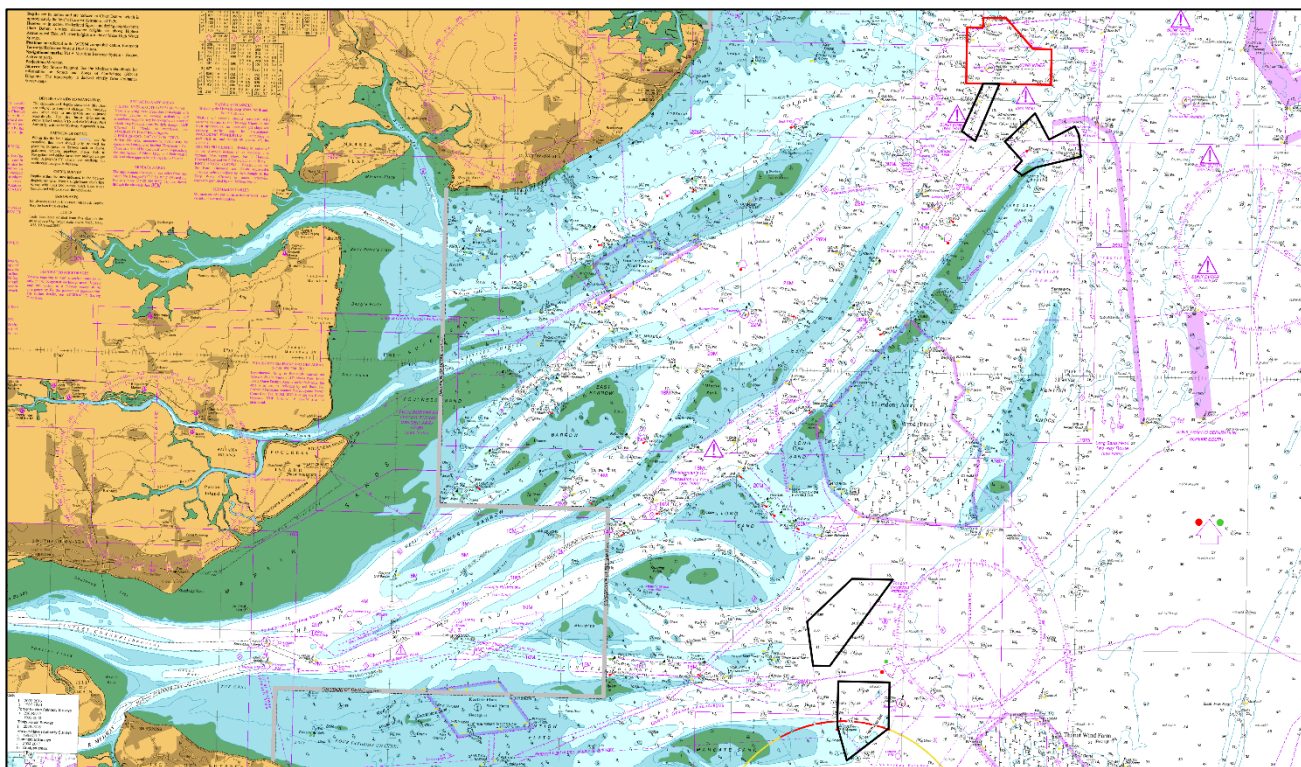


Figure 1: 2019 Thames Estuary Routine Resurvey areas overlaid on BA Chart 1183_0 with area TE3a Sunk in red

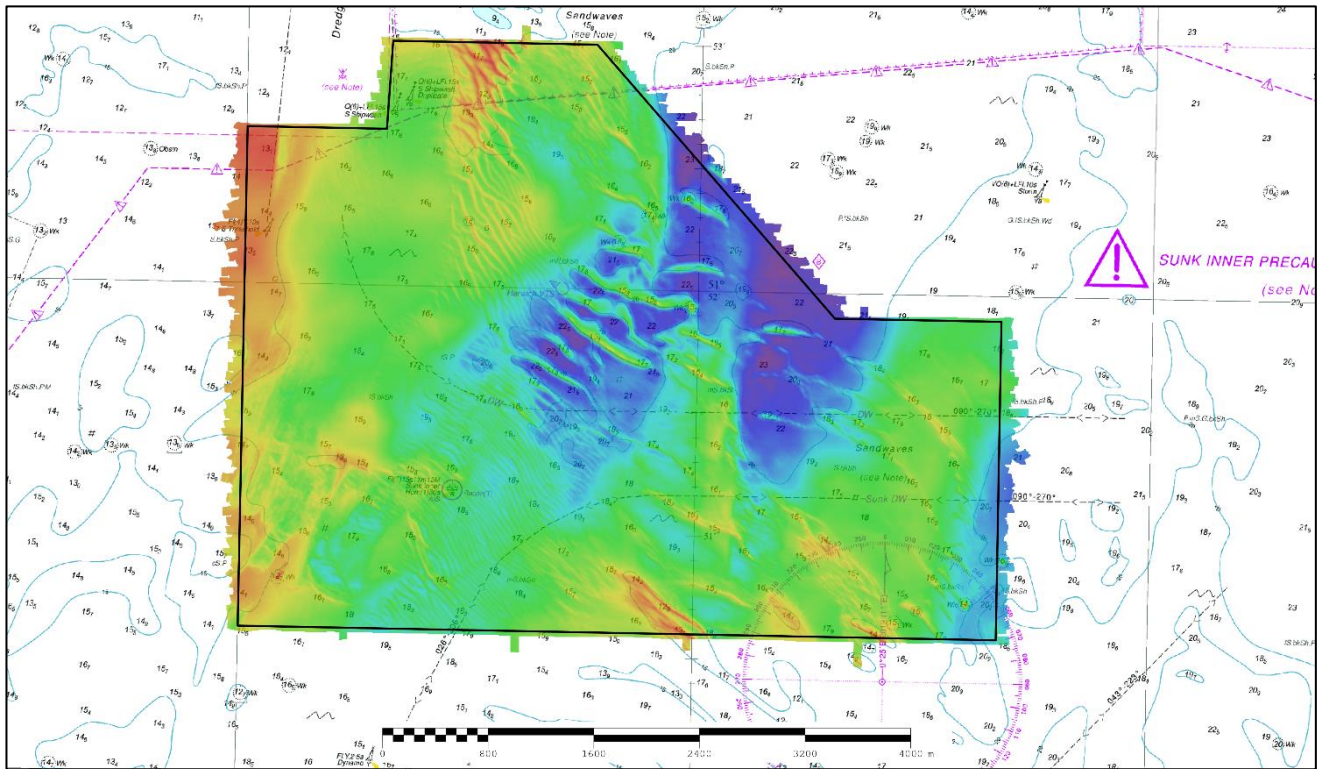


Figure 2: 2019 survey data overlaid on BA Chart 2692_0

3. REFERENCE SURVEY DETAIL

3.1 The previous focussed survey was conducted within the 2018 Routine Resurvey Programme between 25th October 2018 and 5th November 2018, as part of HI1614. The previous full survey (TE3a Sunk) was conducted within the 2016 Routine Resurvey Programme between 11th and 14th August 2016 as part of HI1522.

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 HI1641 was surveyed between 25th August and 10th September 2019.

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 south-westerly movement of sandwaves, gradually getting closer to the Harwich Deep-Water Route, since the previous full survey of TE3a Sunk in 2016. There has been a slight shoaling of depths in places along the deep-water routes although this has had little effect on the overall controlling depths (see 5.2). Elsewhere depths remain stable.

5.2 The depth plot in Figure 4 shows that the controlling depth along the deep-water routes in the 2019 survey area is 16.0 meters, located on Harwich Sunk. The controlling depth along Sunk DWR within the survey area is 16.1m. There is a depth of 14.4m south of DWR Sunk which is

shoaler than the previous survey (14.7m in 2018), and a 14m shoaler depth to the west of this position (previously 14.5m in 2016).

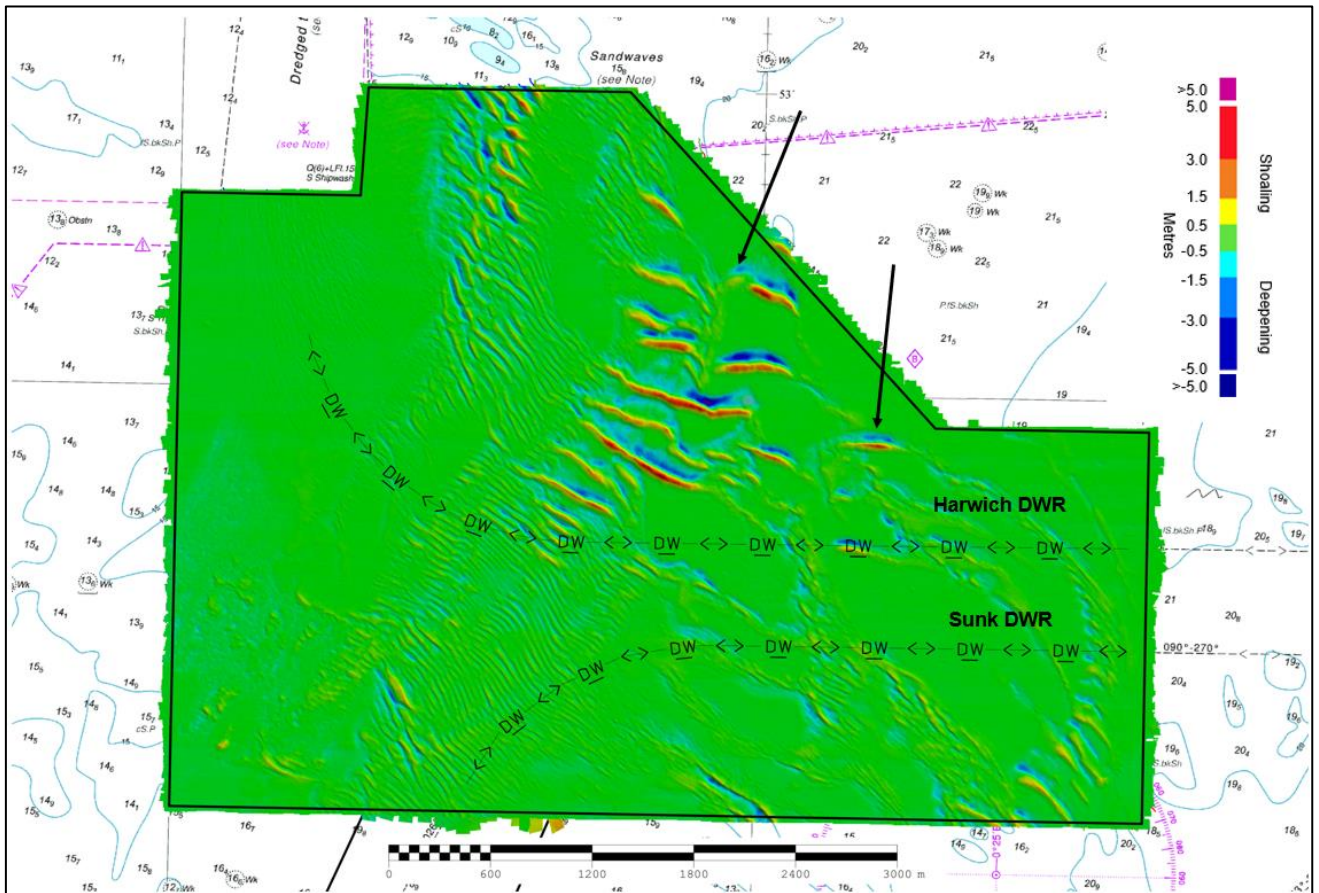


Figure 3: Difference surface showing bathymetric changes between the 2019 and 2016 surveys overlaid on BA Chart 2692 (Black arrows represent sandwave migration since 2016 survey)

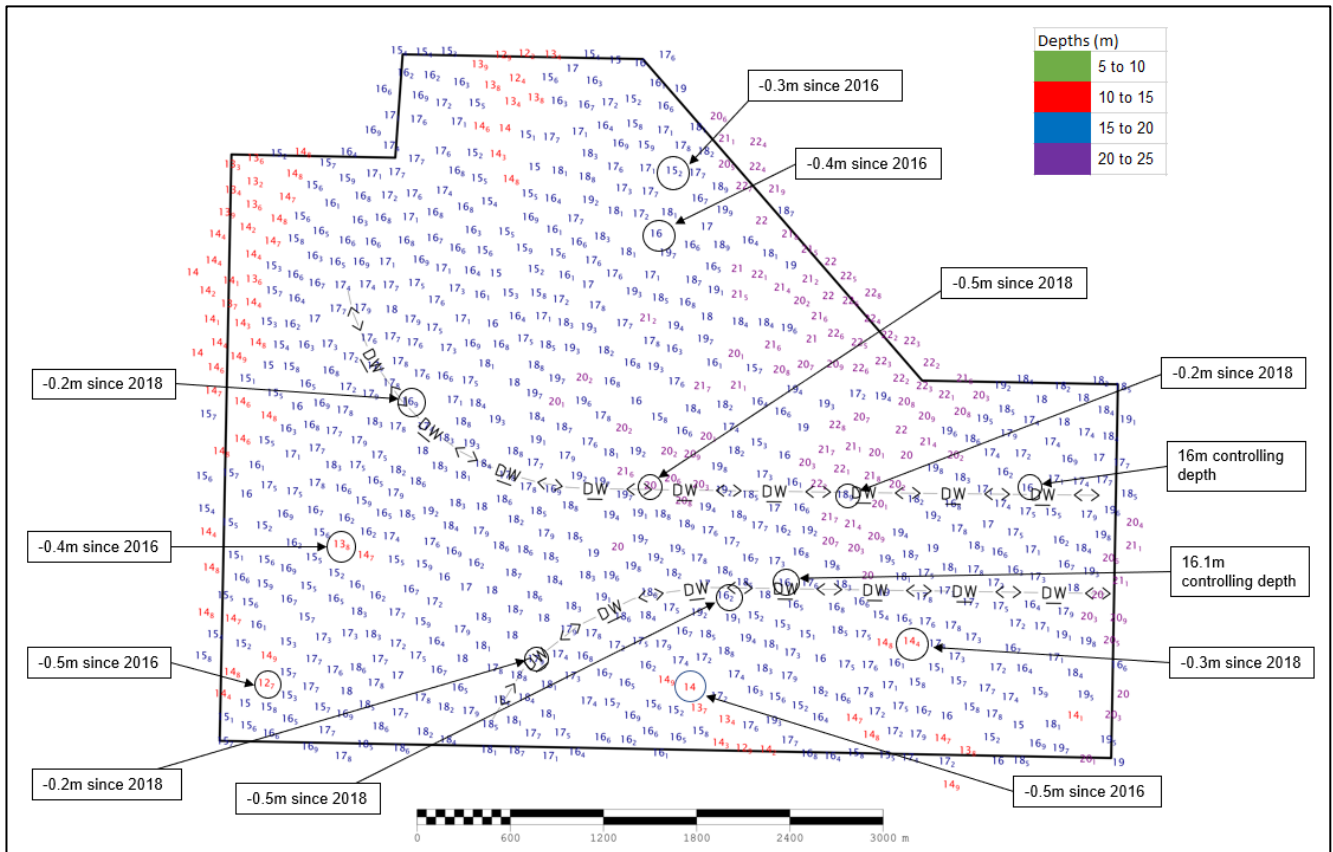


Figure 4: Colour banded depth plot from the 2019 survey with selected depth changes since the 2016 and 2018 surveys. Positive values (+) represent deepening. Negative values (-) represent shoaling.

6. RECOMMENDATIONS FOR FUTURE SURVEYS

Survey Interval

6.1 Survey should continue every two years for the full area, and annually for focussed.

Survey Area

Survey area should remain the same for both focussed and full surveys