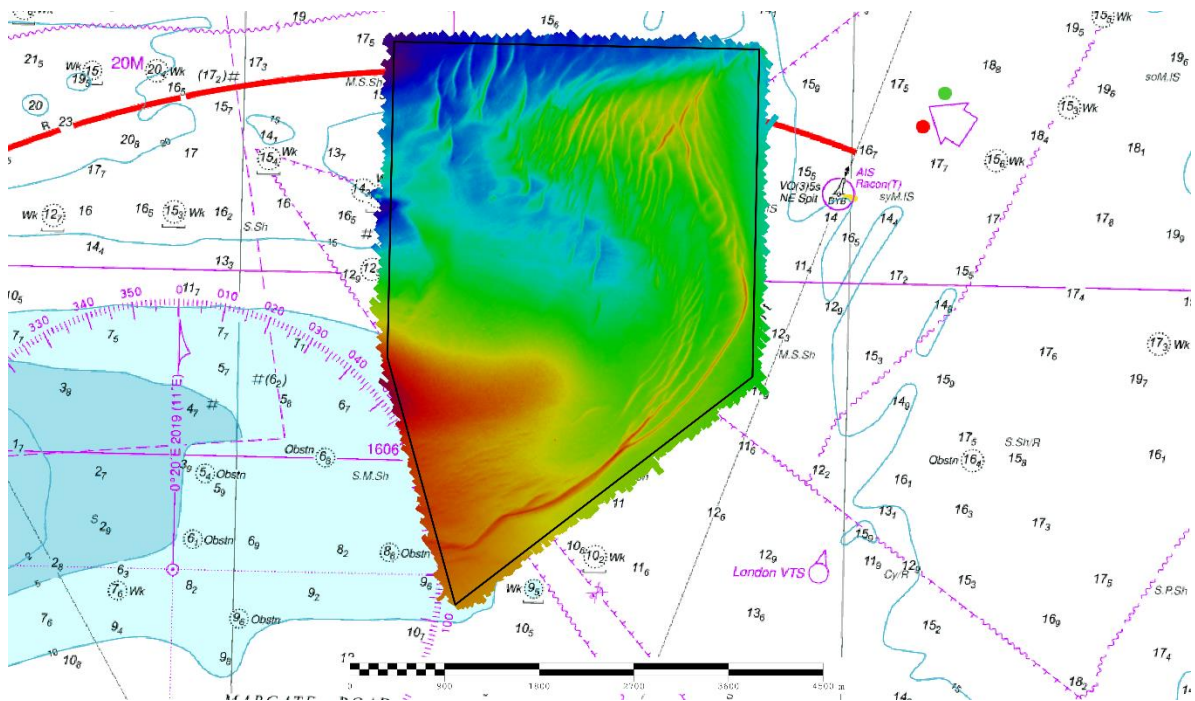




UK Hydrographic
Office

THAMES ESTUARY NORTH EAST SPIT (TE14) 2019 ASSESSMENT

An assessment of the 2019 hydrographic survey of the area TE14 North East Spit: to monitor recent seabed movement; to identify any implications for shipping; and to make recommendations for future surveys.



CONTENTS

Notes	2
1. SUMMARY	1
2. LOCATION	1
3. REFERENCE SURVEY DETAIL	3
4. NEW SURVEY DETAIL	3
5. DESCRIPTION OF RECENT BATHYMETRIC CHANGE	3
6. RECOMMENDATIONS FOR FUTURE SURVEYS	5

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.

TE14 NORTH EAST SPIT -2019

1. SUMMARY

Changes Detected

- 1.1 The 2019 survey indicates that the area is generally stable, with little change in controlling depths across North East Spit from the 2013 survey. There has been slight migration of the shoal patch to the north-east of the survey area, both in a westerly and south-easterly direction affecting the limits of the 10m contour but is not felt to be significant to navigation, as well as sand wave migration in some areas.

Reasons for Continuing to Resurvey the Area

- 1.2 North East Spit and the eastern end of Margate Sand are crossed by vessels bound to or from Princes Channel (via Queens Channel). Some vessel draughts are close to the charted depth and the following areas need routinely re-surveying -
- the shoal sandwaves delimiting North East Spit, as currently defined by the 10m contour;
 - the far eastern end of Margate Sand as marked by East Margate buoy.
 - The shoal patch to the North East of the survey area (North West of NE Spit East Cardinal buoy) shows migration.

Recommendations

- 1.3 The limited variability in the area supports an extended survey interval. It is therefore recommended that the survey interval be changed from 6 years to 12.
- 1.4 It is recommended that the area limits remain unchanged.

2. LOCATION

- 2.1 Survey interval at time of resurvey: 6 years
- 2.2 Area Covered: 14.7 km²

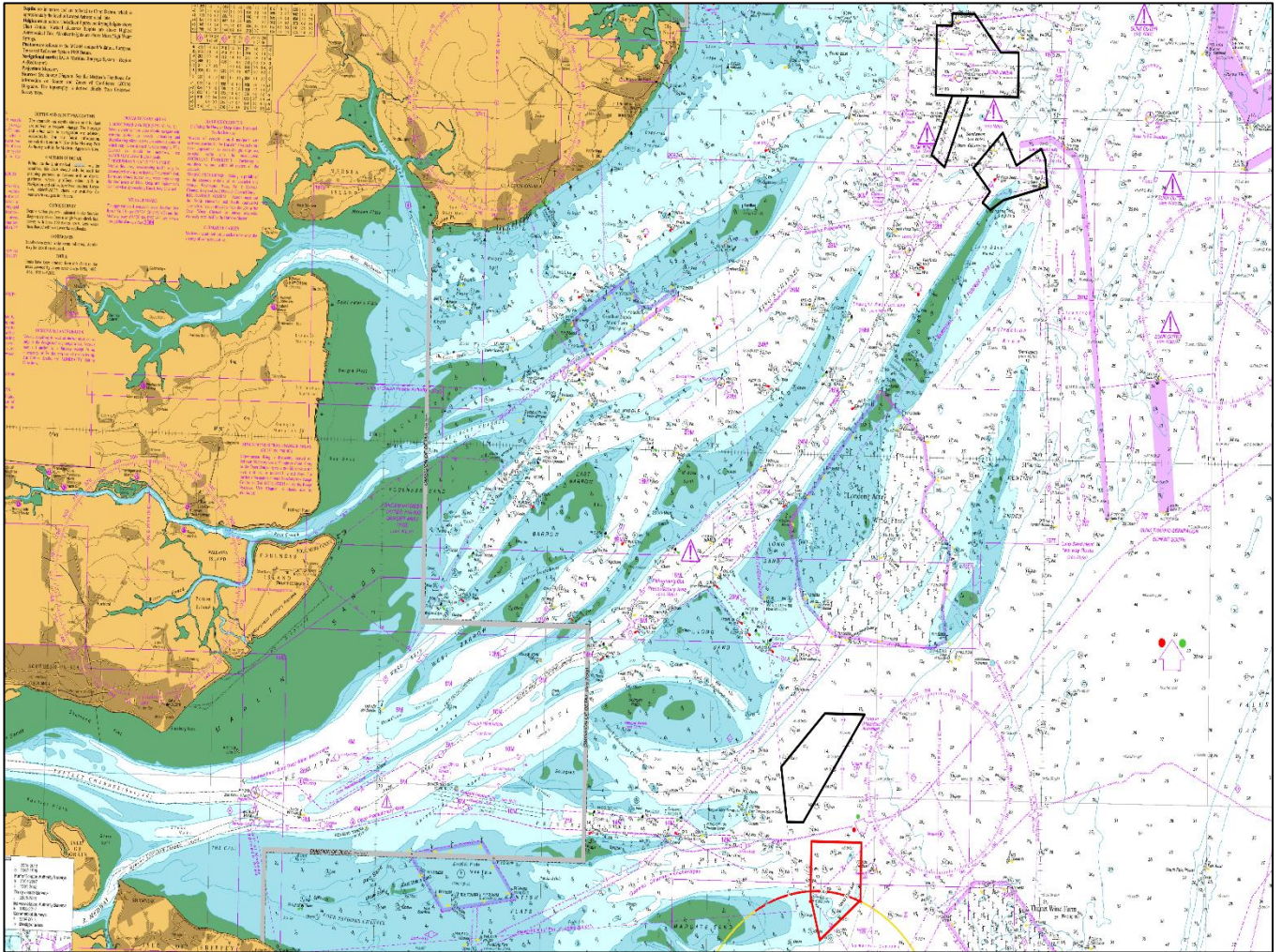


Figure 1: 2019 Thames Estuary Routine Resurvey areas overlaid on BA Chart 1183 with area TE14 in red

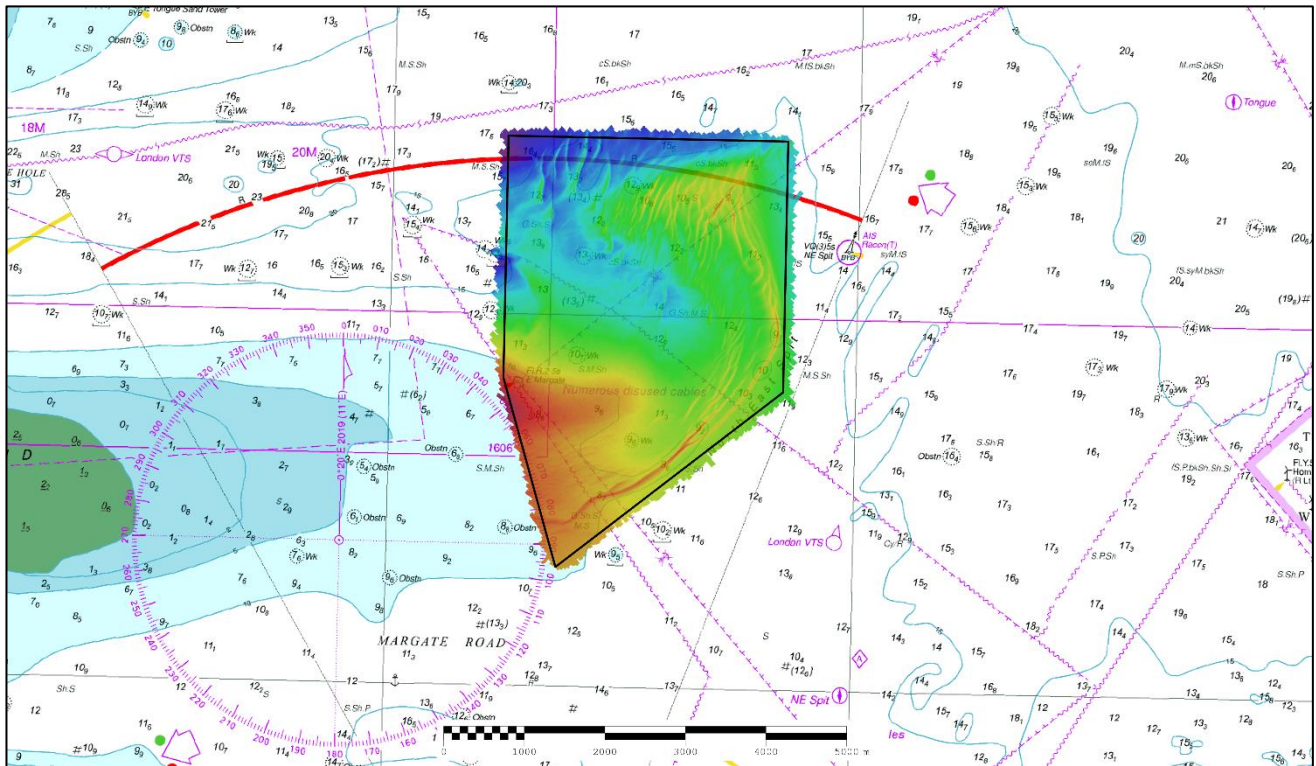


Figure 2: 2019 survey data overlaid on BA Chart 1607_0

3. REFERENCE SURVEY DETAIL

- 3.1 The previous survey (TE14) was conducted within the 2013 Routine Resurvey Programme in October 2013 as part of HI1433.
- 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 survey within the 2019 Routine Resurvey Programme was conducted from 12th to 18th August 2019 as part of HI1645.
- 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 only slight movement of the seabed in limited areas since the previous survey in 2013, as well as sand wave migration.
- 5.2 The depth plot in Figure 4 shows that the controlling depth in the entrance to Queens Channel in the 2019 survey is 9.5 meters, located within the shoal patch to the north-east of the survey area. The shoal patch has migrated south-east extending the 10m contour. Depths to the north-west of the survey area are slightly shoaler than the previous survey due to the seabed movement. A depth of 11.9m exists in this area in the vicinity of the charted 13m depth from the previous survey. To the east of Margate Sand at North East Spit there is a depth of 8.5m which was 9.1m on the previous survey. There has been some additional shoaling of depths

throughout the survey area due to seabed movement but the overall depths in the area remain similar to previous surveys.

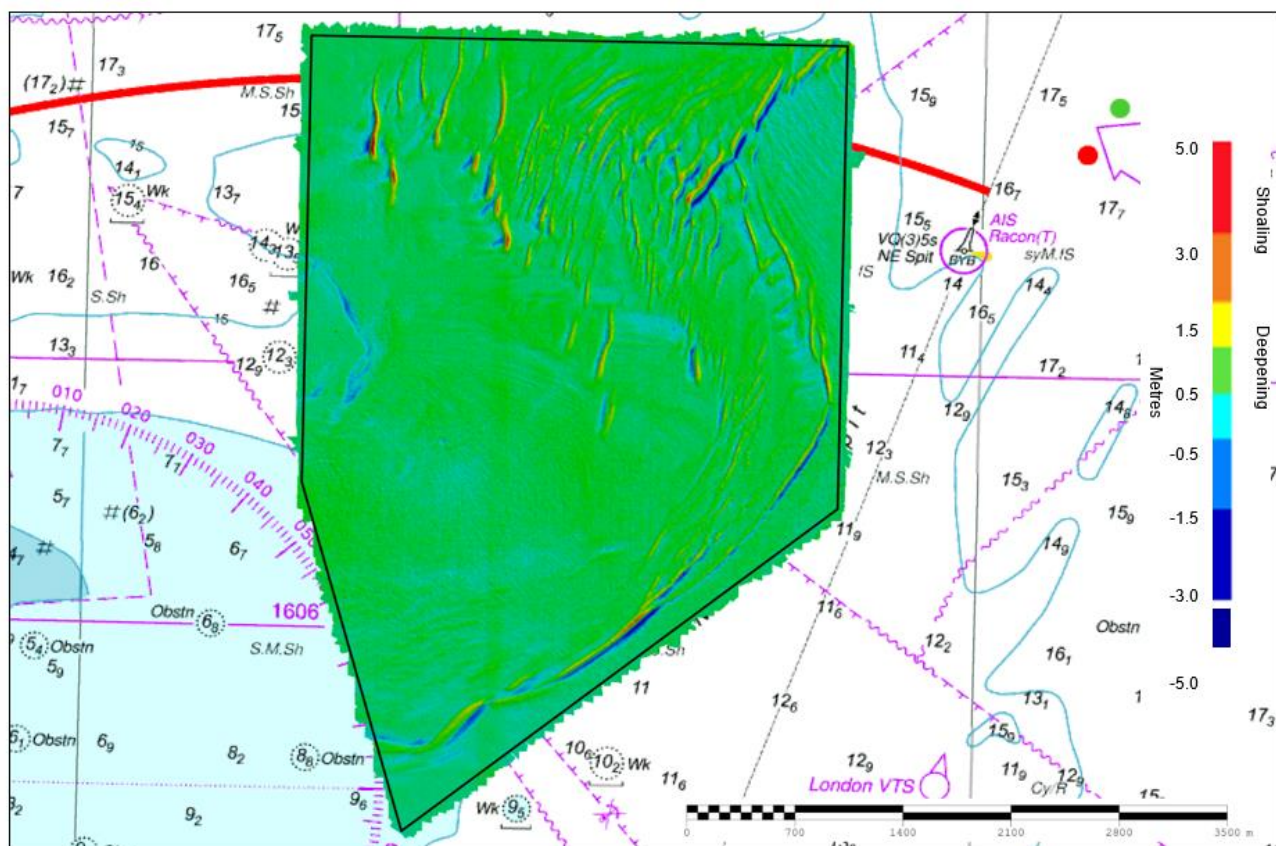


Figure 3: Difference surface showing bathymetric changes between the 2019 and 2013 surveys overlaid on BA Chart 1607

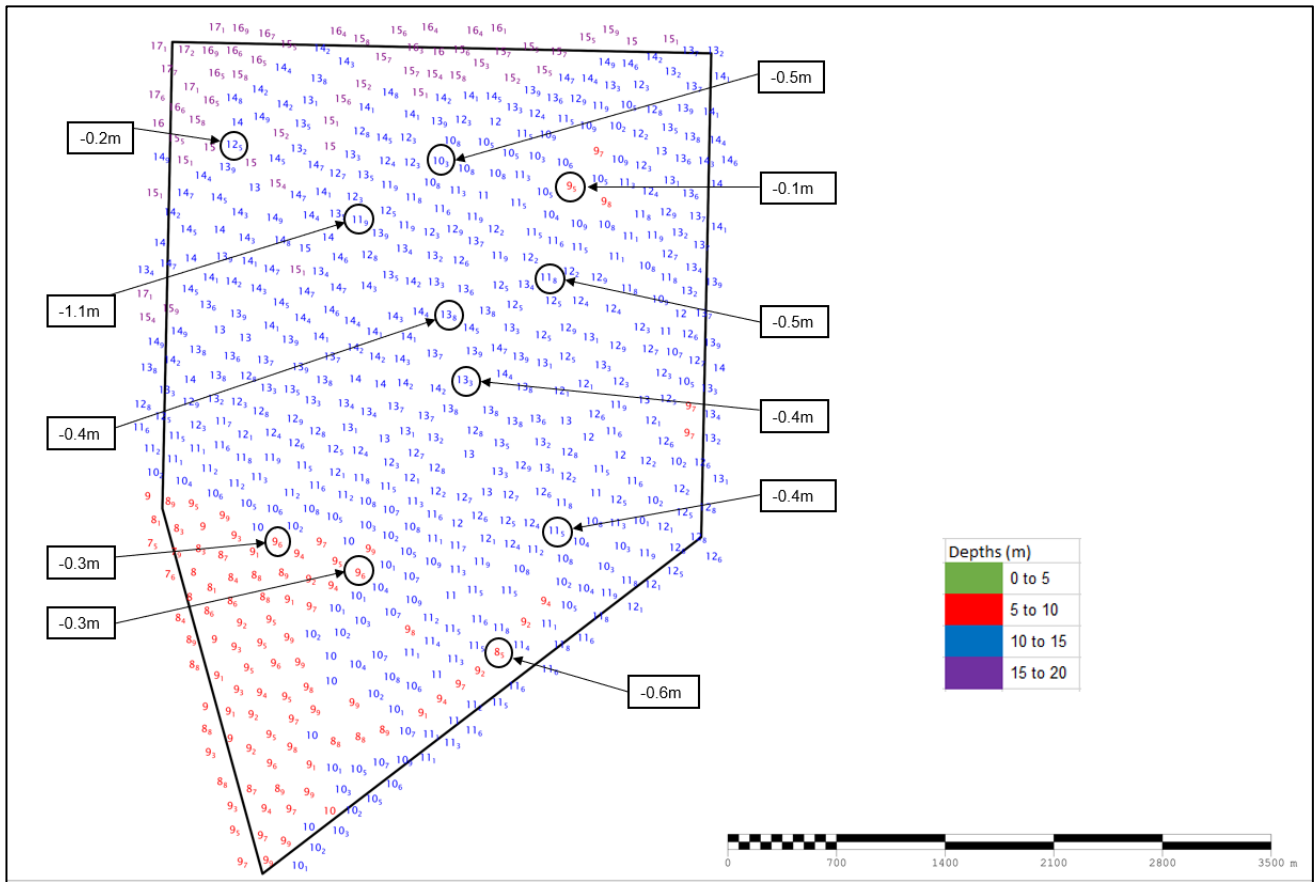


Figure 4: Colour banded depth plot from the 2019 survey with selected depth changes since the 2013 survey. Positive values (+) represent deepening. Negative values (-) represent shoaling.

6. RECOMMENDATIONS FOR FUTURE SURVEYS

Survey Interval

6.1 There has been little significant change within the survey area in the six years since the previous survey. It is therefore recommended that the full survey interval be changed from 6 years to 12.

Survey Area

6.2 The limit of the full survey area should remain unchanged.