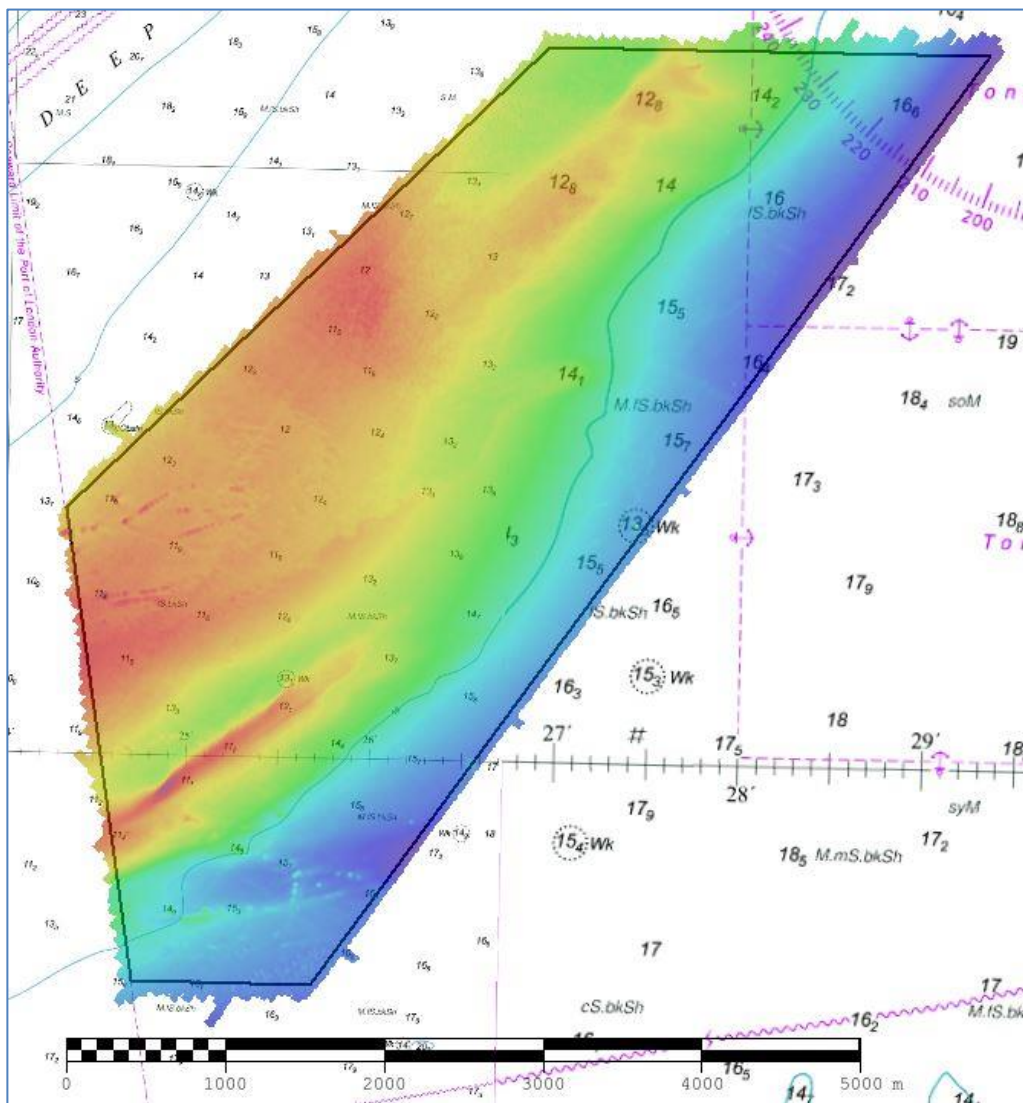




UK Hydrographic
Office

THAMES ESTUARY TE13 – OUTER TONGUE 2019 ASSESSMENT



An assessment of the 2019 hydrographic survey of the area TE13 – Outer Tongue 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.

TE13 – OUTER TONGUE, 2019

1. SUMMARY

Changes Detected

- 1.1 Minimal change has occurred since 2001, with depths generally staying the same in the North and deepening by approximately 1m in the south. The 15m contour has moved westwards by up to 270m since 2008.

Considerations for Continuing to Resurvey the Area

- 1.2 There have been minimal changes observed since 2001, with a general deepening across much of the area.

Recommendations

- 1.3 UKHO recommends removing this area from the RRS Programme.

2. LOCATION

- 2.1 Survey interval at time of resurvey: 12 years

- 2.2 Area Covered: 16.66 km²

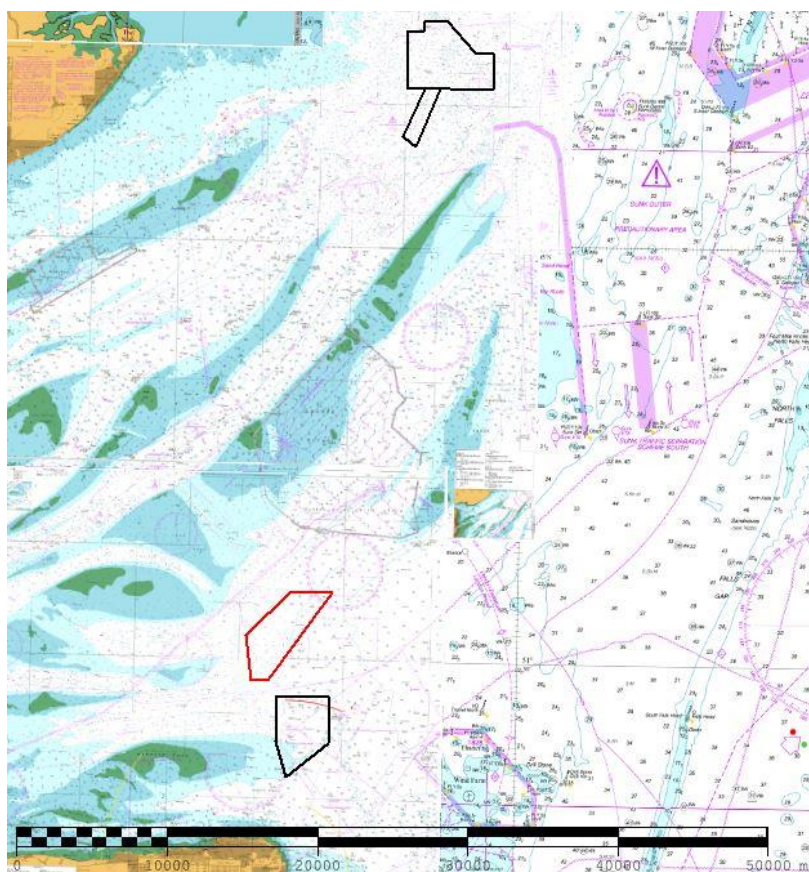


Figure 1: 2019 Thames Estuary Routine Resurvey areas overlaid on BA Charts 2692-0, 1975-0, 1610-0, 1607-0 and 1606-0 with area TE13 in red

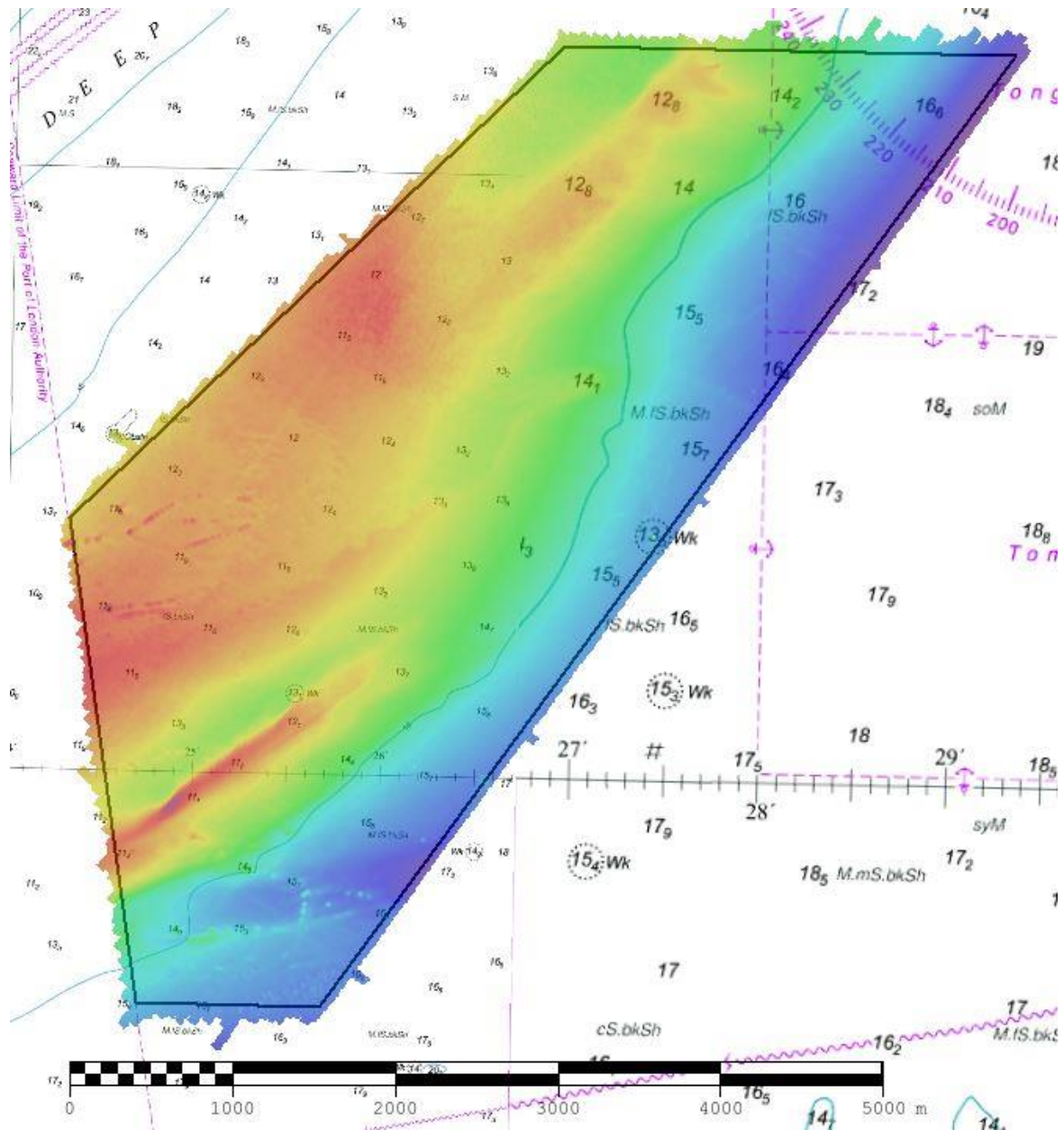


Figure 2: 2019 survey data overlaid on BA Charts 1606-0 and 0607-0

3. REFERENCE SURVEY DETAIL

- 3.1 HI938-939 Outer Tongue and Approaches to Queens Channel, 2001.
- 3.2 HI1269 Outer Tongue, 2008.
- 3.3 The Report of Survey for the above surveys are 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 HI1644 Outer Tongue, 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 very minimal change in depth since the 2008 survey, with very slight shoaling in the North, and a deepening of up to 0.8m (fig. 5) in the centre of the area.
- 5.2 The difference surface in Figure 4 shows that since 2001 there has been a general deepening of depths in the south, with a single area of shoaling by 2.0m (fig. 5), and very little change in the north.
- 5.3 The contour plot in figure. 6 shows that the 15m contour didn't move between 2001 and 2008, then a general movement of the 15m contour westwards (away from deeper water and the anchorage areas) by up to 270m from 2008 to 2019.

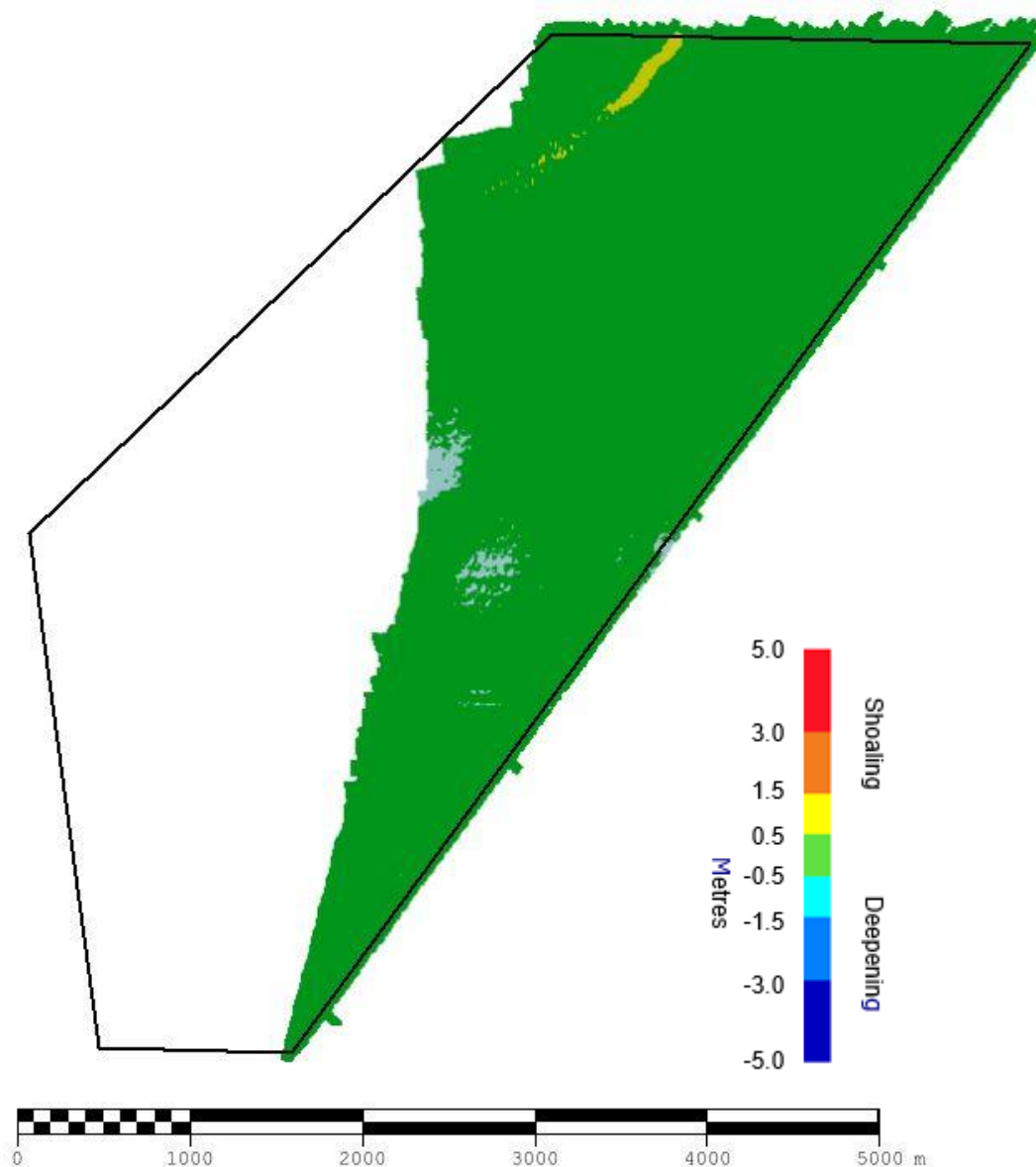


Figure 3: Difference surface showing bathymetric changes between the 2008 and 2019 surveys

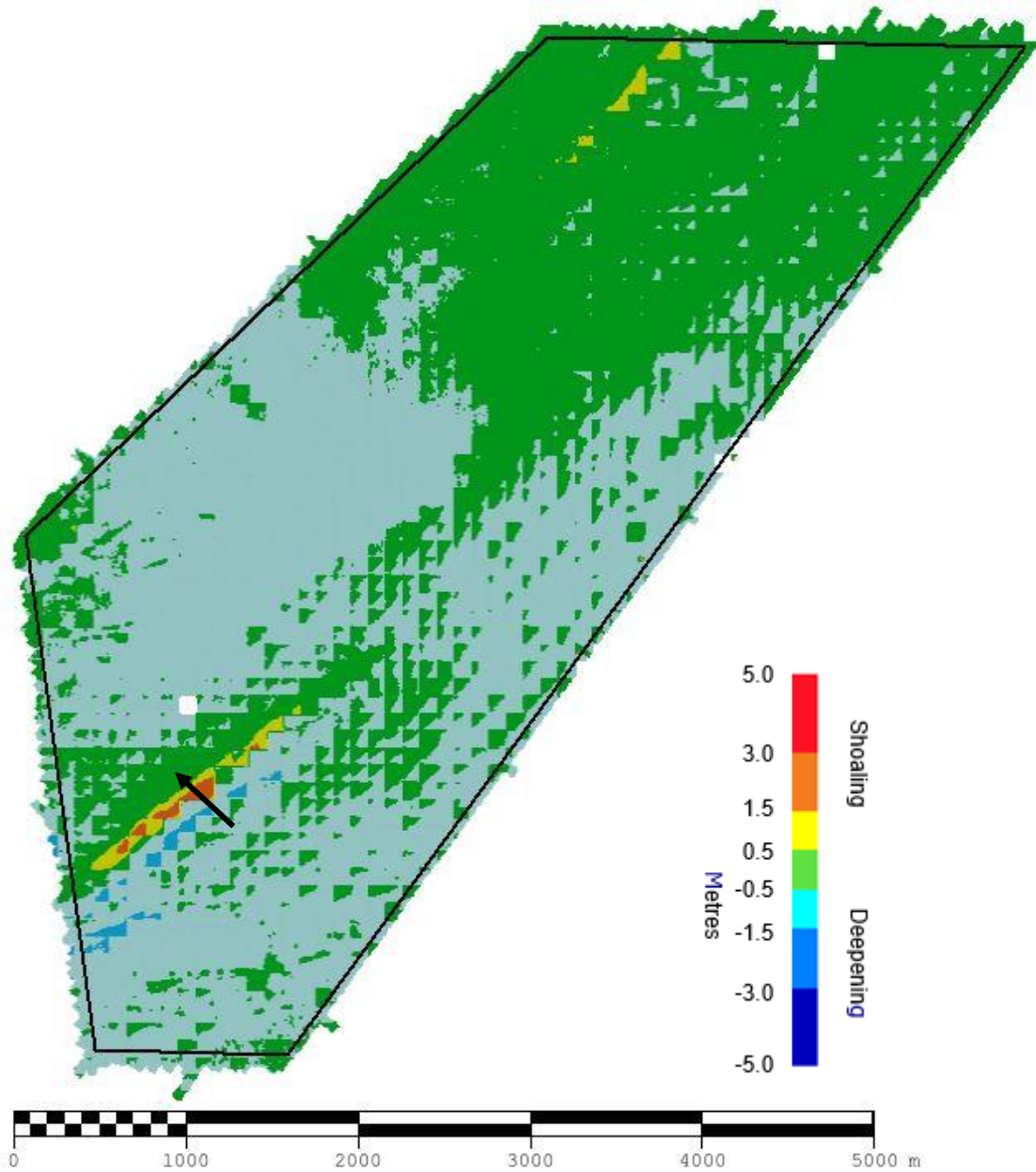


Figure 4: Difference surface showing bathymetric changes between the 2001 and 2019 surveys

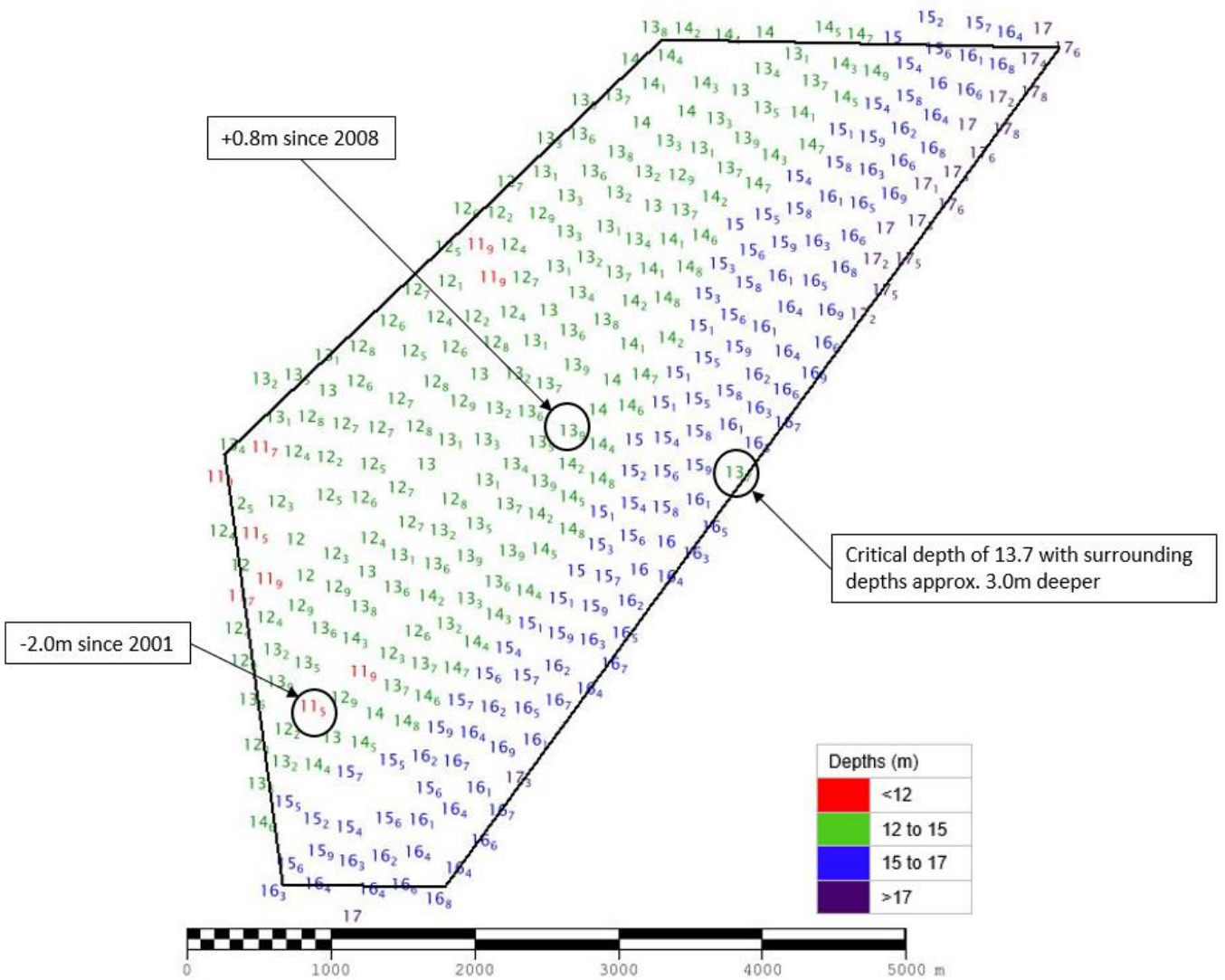


Figure 5: Colour banded depth plot from the 2019 survey with selected depth changes since the 2008 and 2001 surveys. Positive values (+) represent deepening. Negative values (-) represent shoaling.

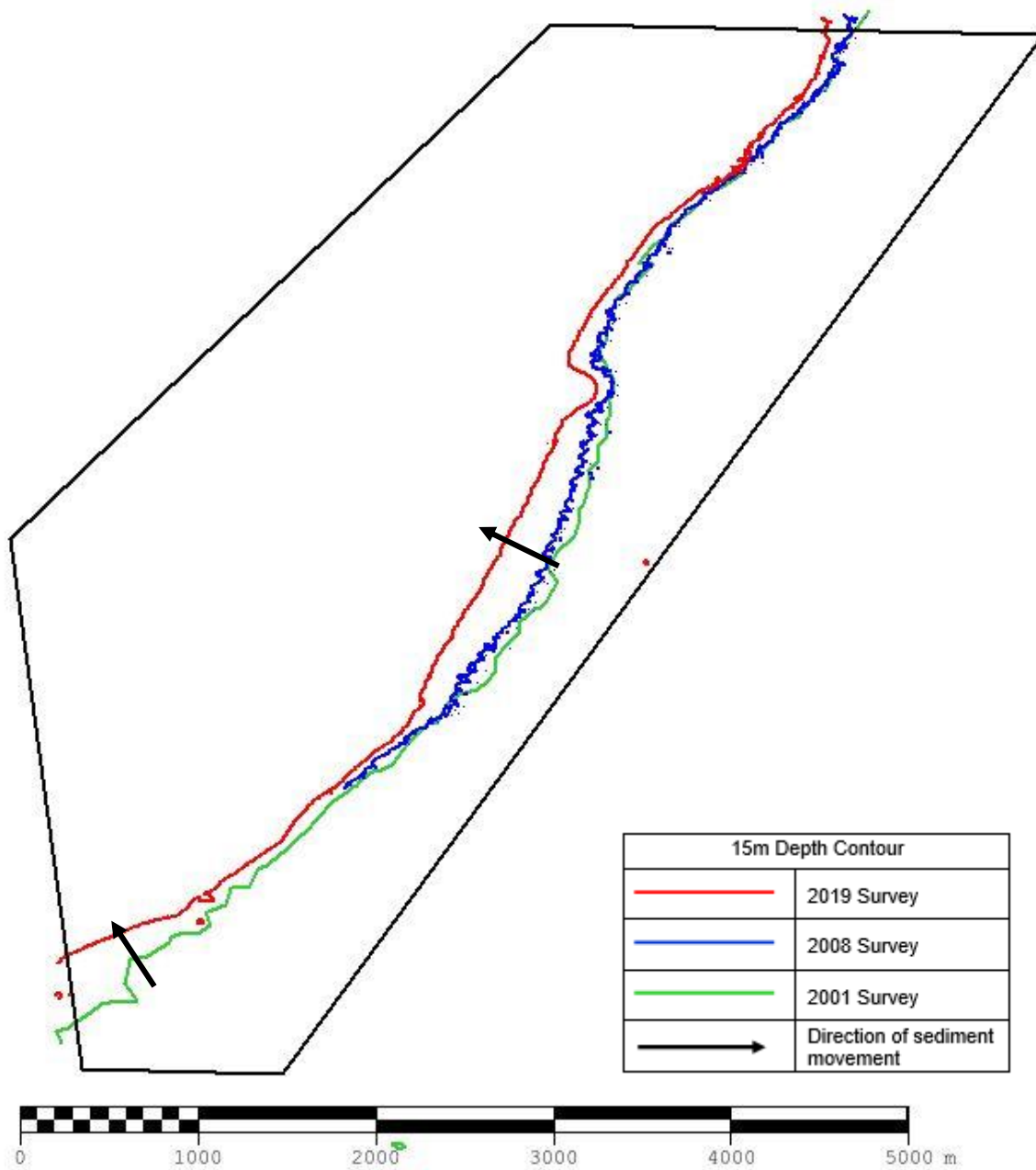


Figure 6: Contour plot showing location of the 15m contour in the 2019, 2008 and 2001 surveys

6. RECOMMENDATIONS FOR FUTURE SURVEYS

Survey Interval

- 6.1 Due to the minimal changes observed since 2001, with a general deepening across much of the area, UKHO recommends removing this area from the RRS Programme.

Survey Area

- 6.2 If it is decided to retain this area, the extents of this area currently adequately covers any mobile sediment that could cause a hazard to shipping navigation and the Tongue anchorage areas, and therefore no revision is required at this time.