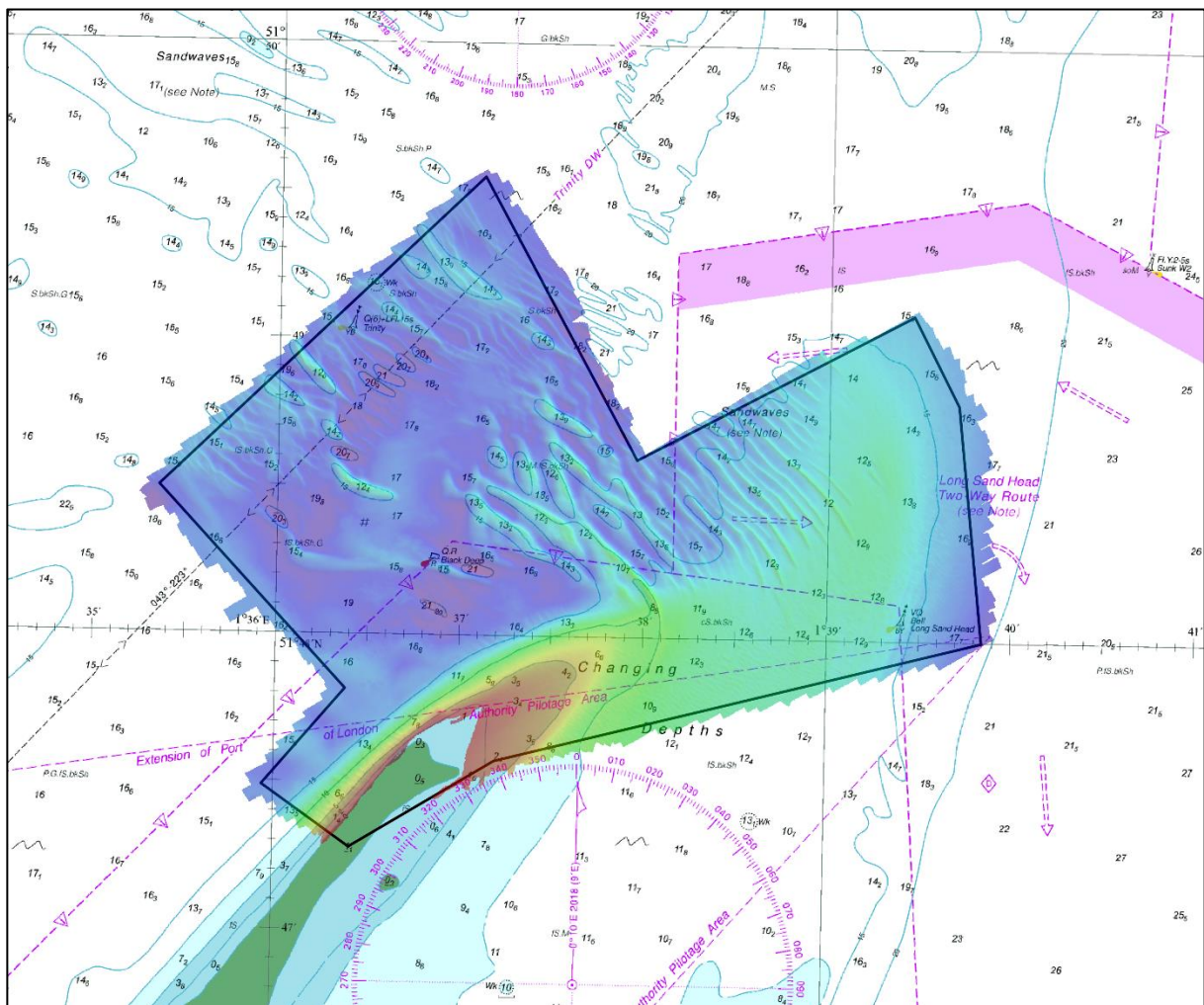




UK Hydrographic
Office

THAMES ESTUARY TRINITY DWR AND LONG SAND HEAD (TE5A) 2017 ASSESSMENT

An assessment of the 2017 hydrographic survey of the area TE5A Trinity DWR and Long Sand Head: 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 Department for Transport (including the MCA) and the Ministry of Defence (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 local chart datum, defined using the UKHO VORF Model.

TRINITY DWR AND LONG SAND HEAD (TE5A), 2017

1. SUMMARY

Changes Detected

- 1.1 The controlling depth in close proximity to the Trinity DWR has shoaled to 12.2 metres since last surveyed.
- 1.2 Sandwaves throughout the area and Long Sand Head have migrated north-eastwards, following historical trends. Depths on the top of these sandwaves have shoaled since last surveyed.

Reasons for Continuing to Resurvey the Area

- 1.3 Controlling depths for vessels using the Trinity DWR remain close to the maximum draught of vessel transiting the area. Depths have continued to change in this vicinity and sandwaves nearby could infringe on the route.
- 1.4 Sandwave areas and Long Sand Head continue to migrate towards the Long Sand Head Two-Way Route. Shoaling depths throughout the area require annual monitoring.

Recommendations

- 1.5 Annual resurvey of the area should remain unchanged.
- 1.6 The survey area should remain unchanged to encompass Trinity DWR, the tip of Long Sand Head, Long Sand Head buoy and the sandwave area at the start of the Two-Way Route.

2. LOCATION

- 2.1 Survey interval at time of resurvey: 1 year (Focused Area)
- 2.2 Area Covered: 11.21 km²

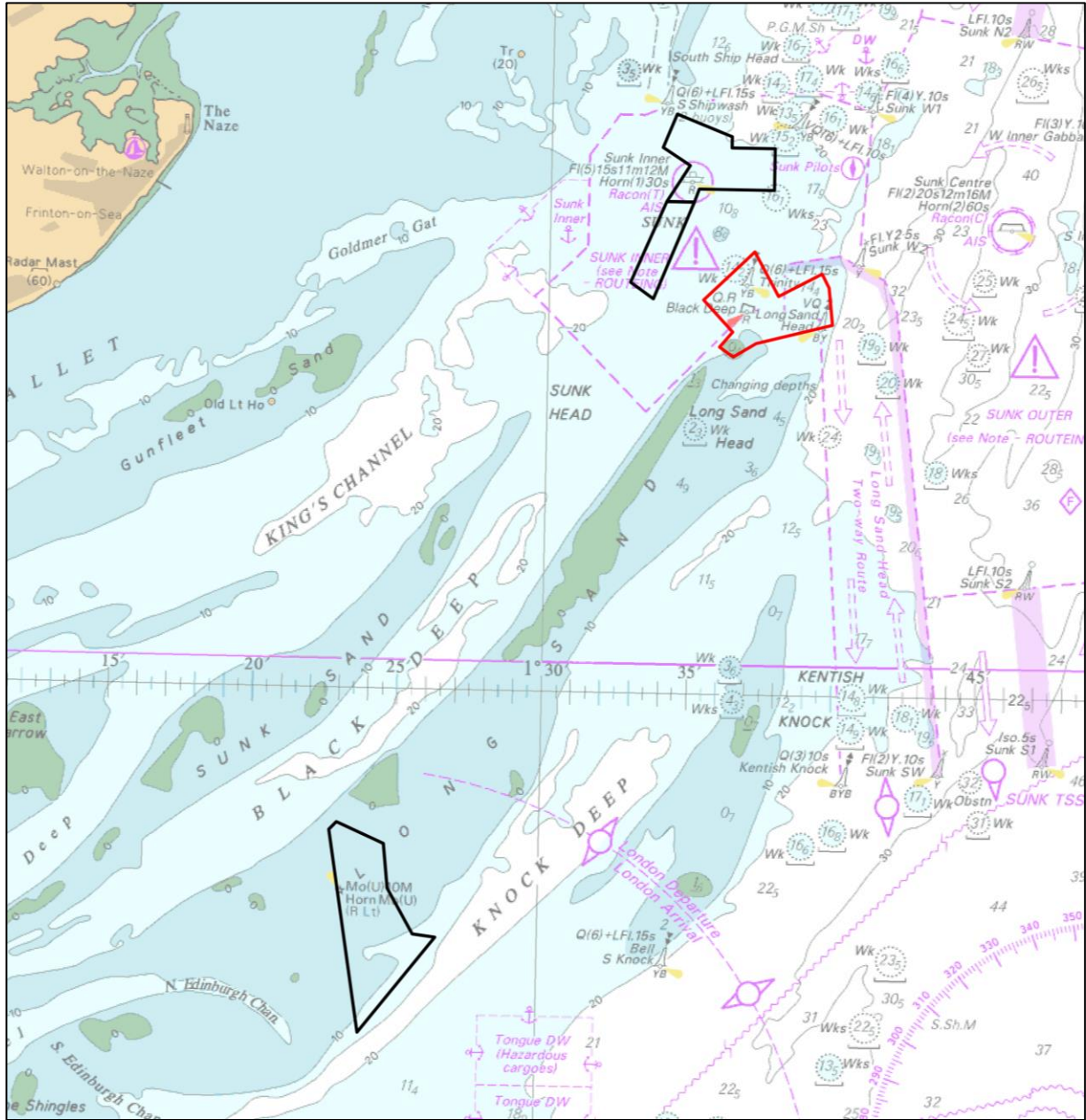


Figure 1 – 2017 Thames Estuary RRS areas overlaid on BA Chart 1406 with TE5A Trinity DWR and Long Sand Head in Red

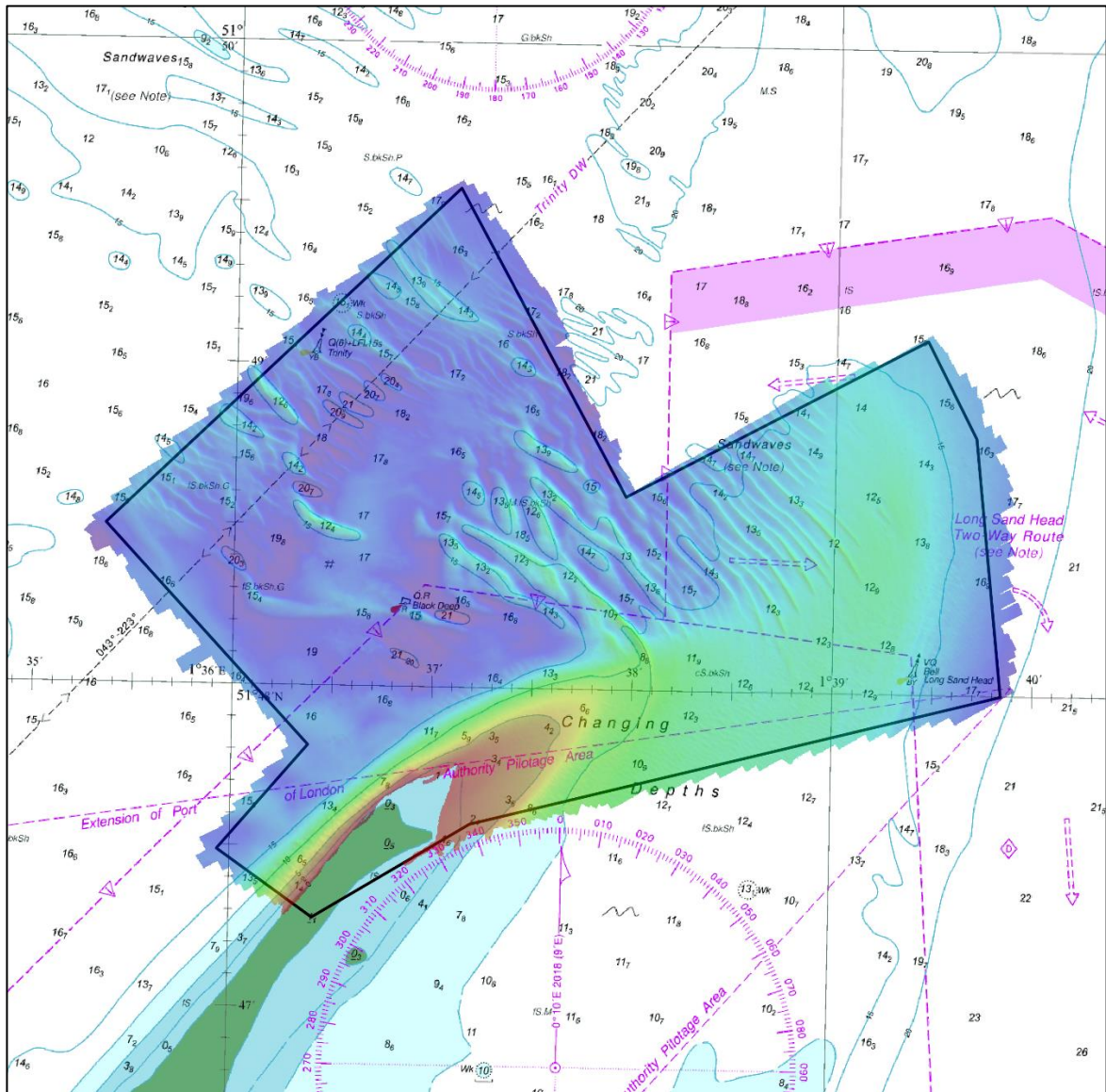


Figure 2 – 2017 survey data sun-illuminated view overlaid on BA Chart 2692

3. REFERENCE SURVEY DETAIL

3.1 HI 1522 TE5A was surveyed in August and September 2016.

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 INSPIRE portal and MEDIN Bathymetry Data Archive Centre.

4. COMPARISON SURVEY DETAIL

4.1 HI 1546 TE5A Trinity DWR and Long Sand Head was surveyed in July and November 2017.

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 INSPIRE portal and MEDIN Bathymetry Data Archive Centre.

5. DESCRIPTION OF RECENT BATHYMETRIC CHANGE

- 5.1 The difference surface in Figure 3 shows that sandwaves within the TE5A area have migrated north-eastwards, which is consistent with historical trends.
- 5.2 The controlling depth close to Trinity DWR is 12.2 metres, located 270m northwest of the deep water trackline. Figure 4 shows that this has shoaled by 0.4m since 2016.
- 5.3 Figure 4 shows that the majority of sandwaves have shoaled since last surveyed.
- 5.4 The contour plot in Figure 5 shows that the 10 metre contour over Long Sand Head has migrated 145 metres north-eastwards between 2016 and 2017 towards the Long Sand Head Two-Way Route, which is consistent with long-term trends.

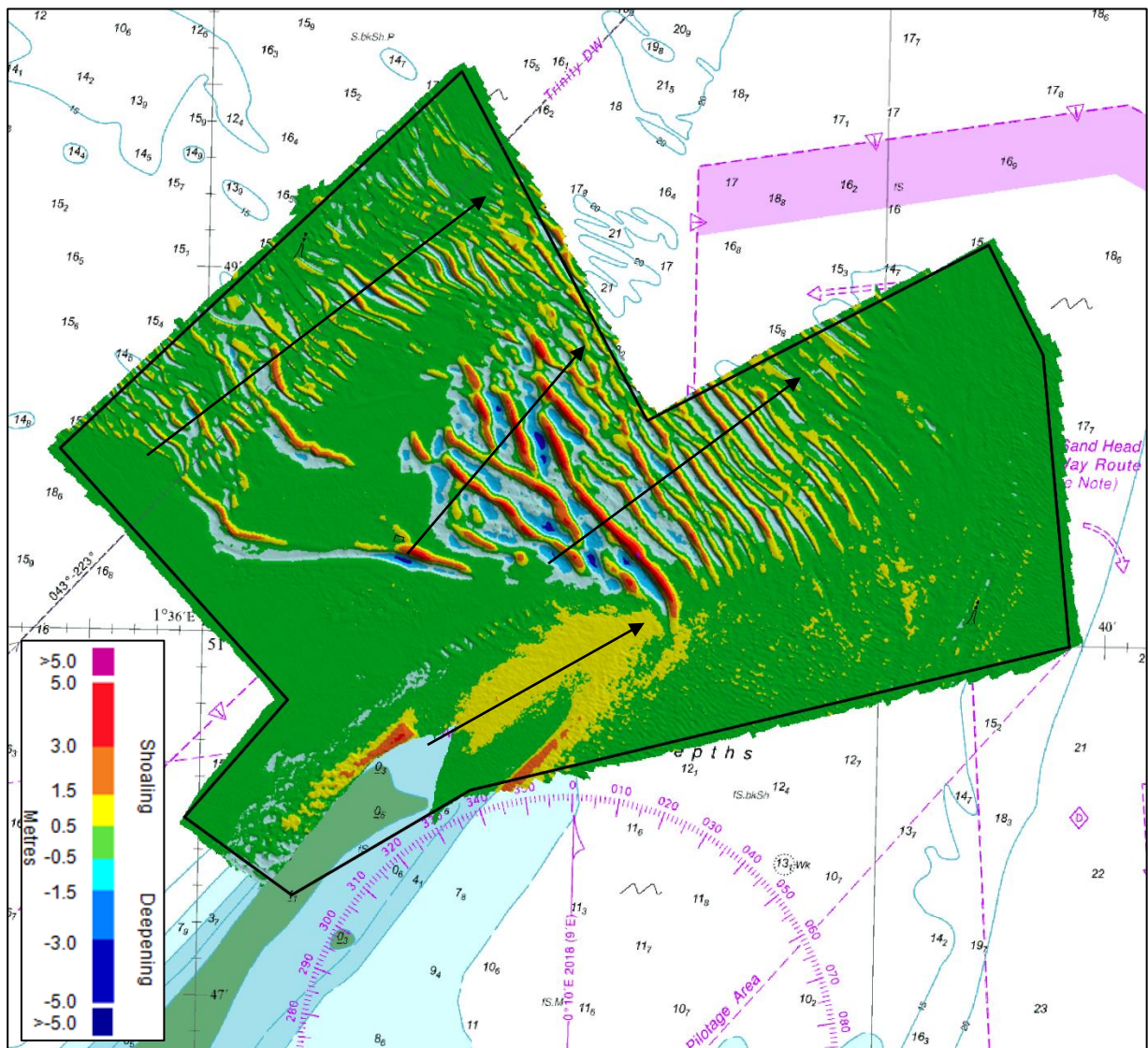
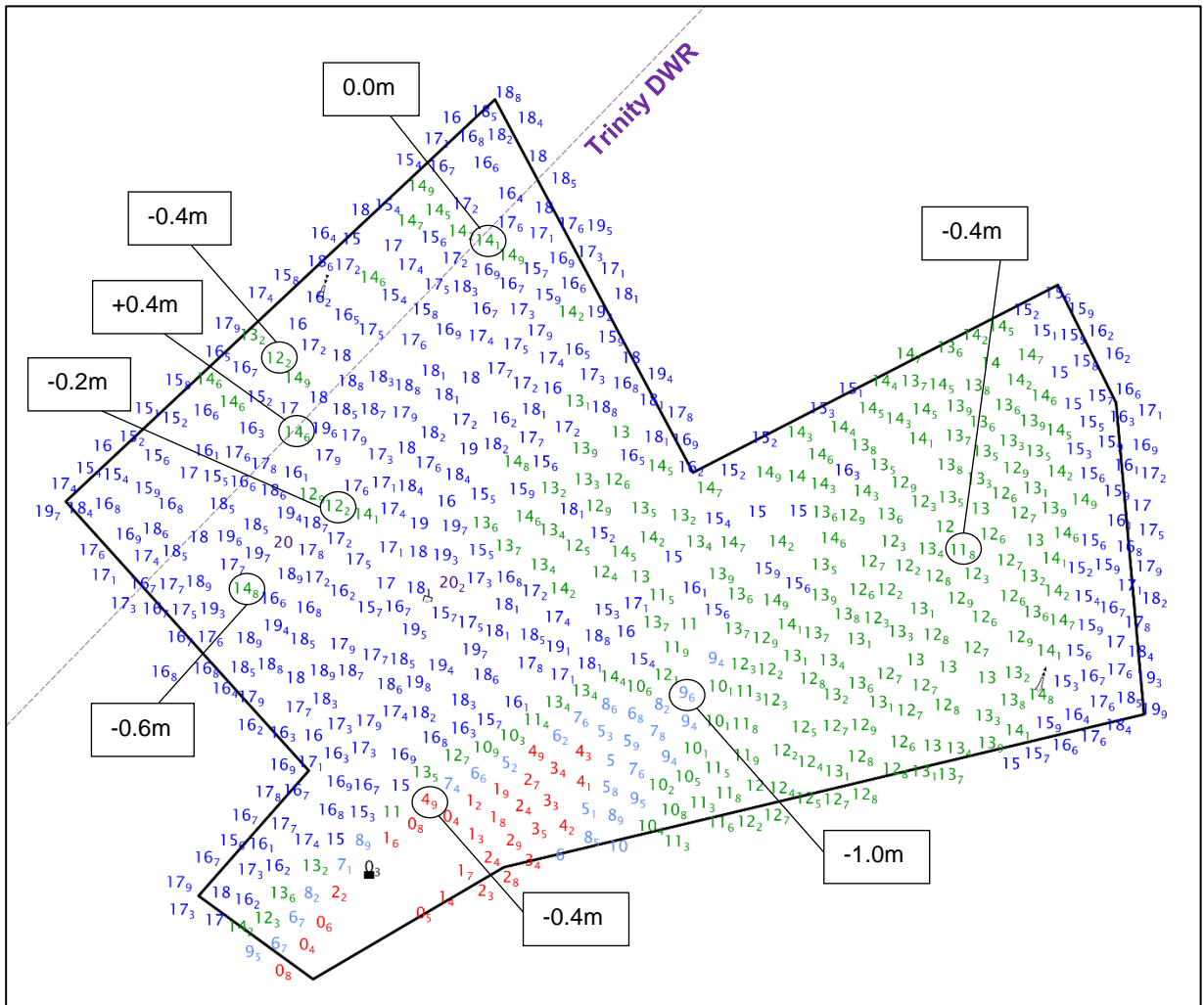


Figure 3 – Difference plot 2016 vs 2017 survey overlaid on BA Chart 2692 (Black arrowed lines represent direction of sandwave migration)



Positive values (+) represent deepening. Negative values (-) represent seabed depths becoming shallower.

Figure 4 – Colour Banded Depth Plot from the 2017 Survey with selected depth changes since the 2016 survey

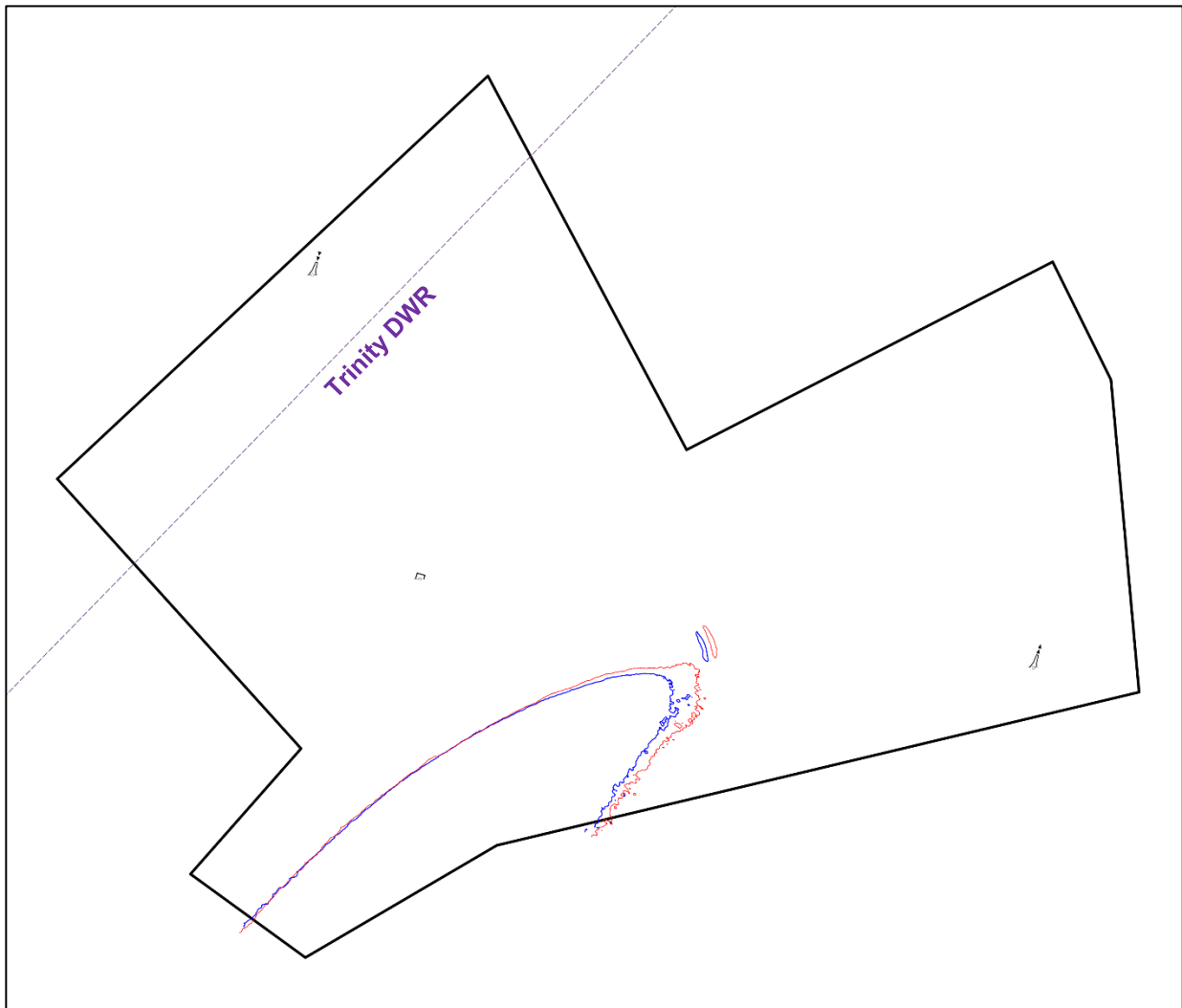


Figure 5 – 10m contour from the 2016 (blue) and 2017 (red) surveys

6. RECOMMENDATIONS FOR FUTURE SURVEYS

Survey Interval

- 6.1 Depths along the Trinity deep water shipping route remain close to the draught of the largest vessels transiting the TE5A area. This, combined with the continues steady migration of Long Sand Head means the annual resurvey interval of the area should remain unchanged.

Survey Area

- 6.2 The focused survey area should remain unchanged so that it continues to encompass the Trinity DWR, as well as the tip of Long Sand Head to the Long Sand Head buoy and the sandwave area at the start of the Two-Way Route. All of these areas are used by vessel traffic.