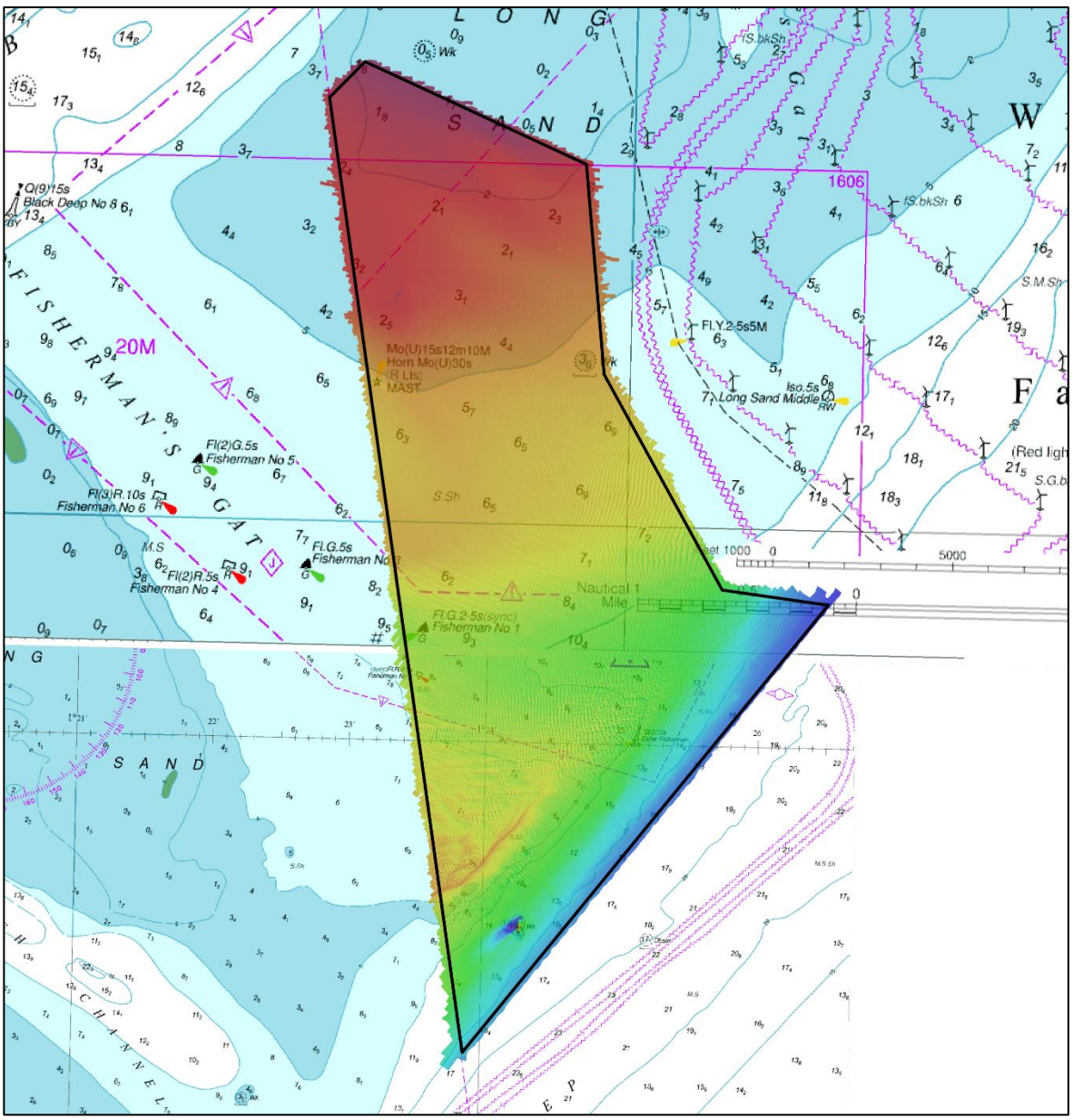
UK Hydrographic Office

THAMES ESTUARY
FISHERMANS GAT (TE19)
2017 ASSESSMENT

An assessment of the 2017 hydrographic survey of the area TE19: 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.

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.

FISHERMANS GAT (TE19), 2017

1. SUMMARY

Changes Detected

1.1 Depths have not changed significantly throughout the area. The large sandwave in the south of the area has moved north-westwards towards Fisherman's Gat.

Reasons for Continuing to Resurvey the Area

1.2 Seabed movement is evident and although the large sandwave in the south of the area has not encroached on Fisherman's Gat, its north-westerly movement remains a long-term threat to vessel traffic in the vicinity.

1.3 Depths remain changeable and therefore require long-term monitoring. Manoeuvring vessels in this area are still at risk of any major seabed change.

Recommendations

1.4 The 12 year survey interval should remain. Controlling depths have not changed significantly since 2005 and sandwaves have not shoaled or encroached on the Fisherman's Gat Precautionary Area, but there has been considerable bedform movement.

1.5 The survey area should remain the same to continue the long-term monitoring of sandbank changes in the north and sandwave/ripple movement in the middle and south of the survey area.

2. LOCATION

2.1 Survey interval at time of resurvey: 12 years

2.2 Area Covered: 16.32 km^2

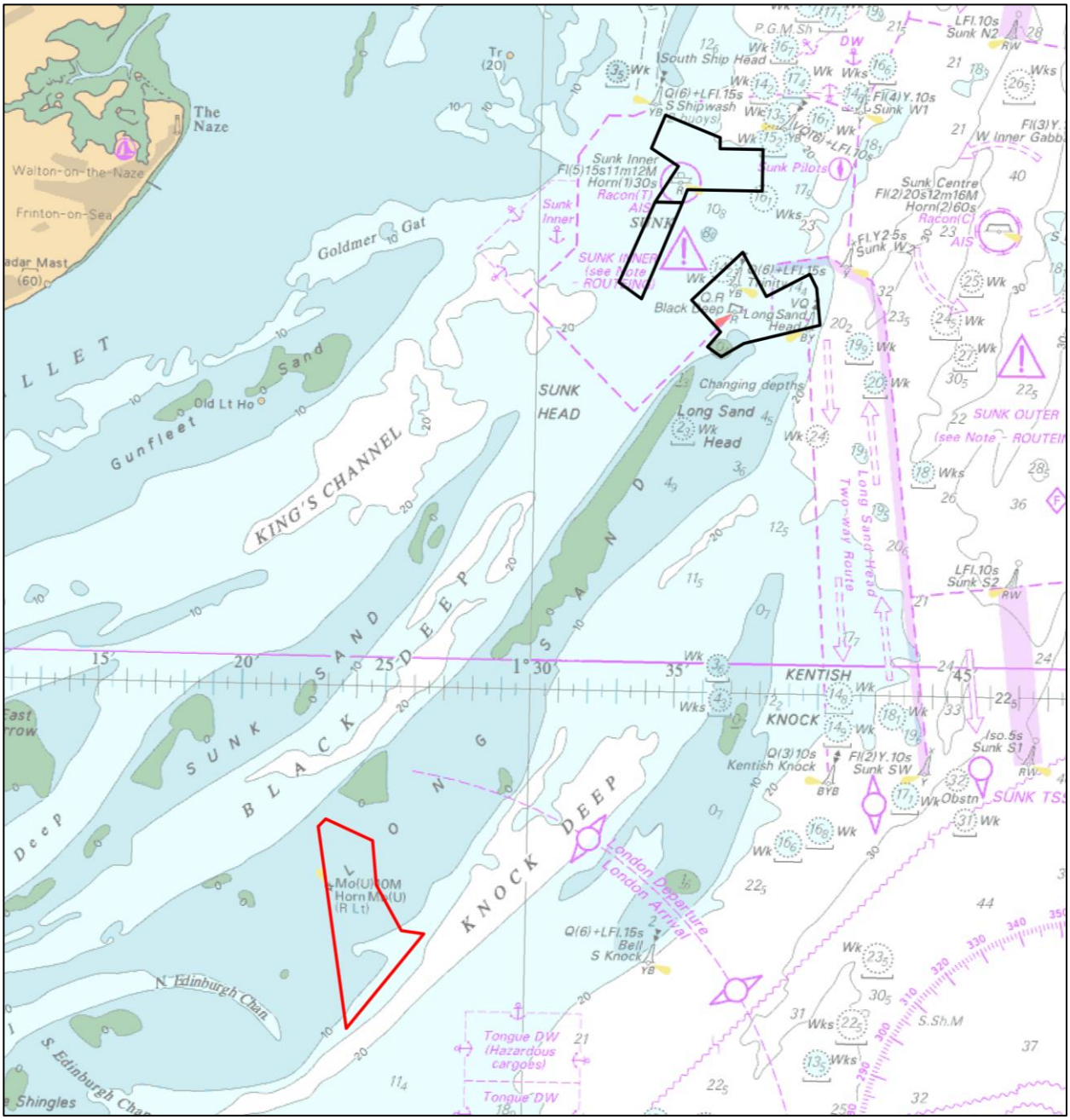


Figure 1 – 2017 Thames Estuary RRS areas overlaid on BA Chart 1406 with TE19 in Red

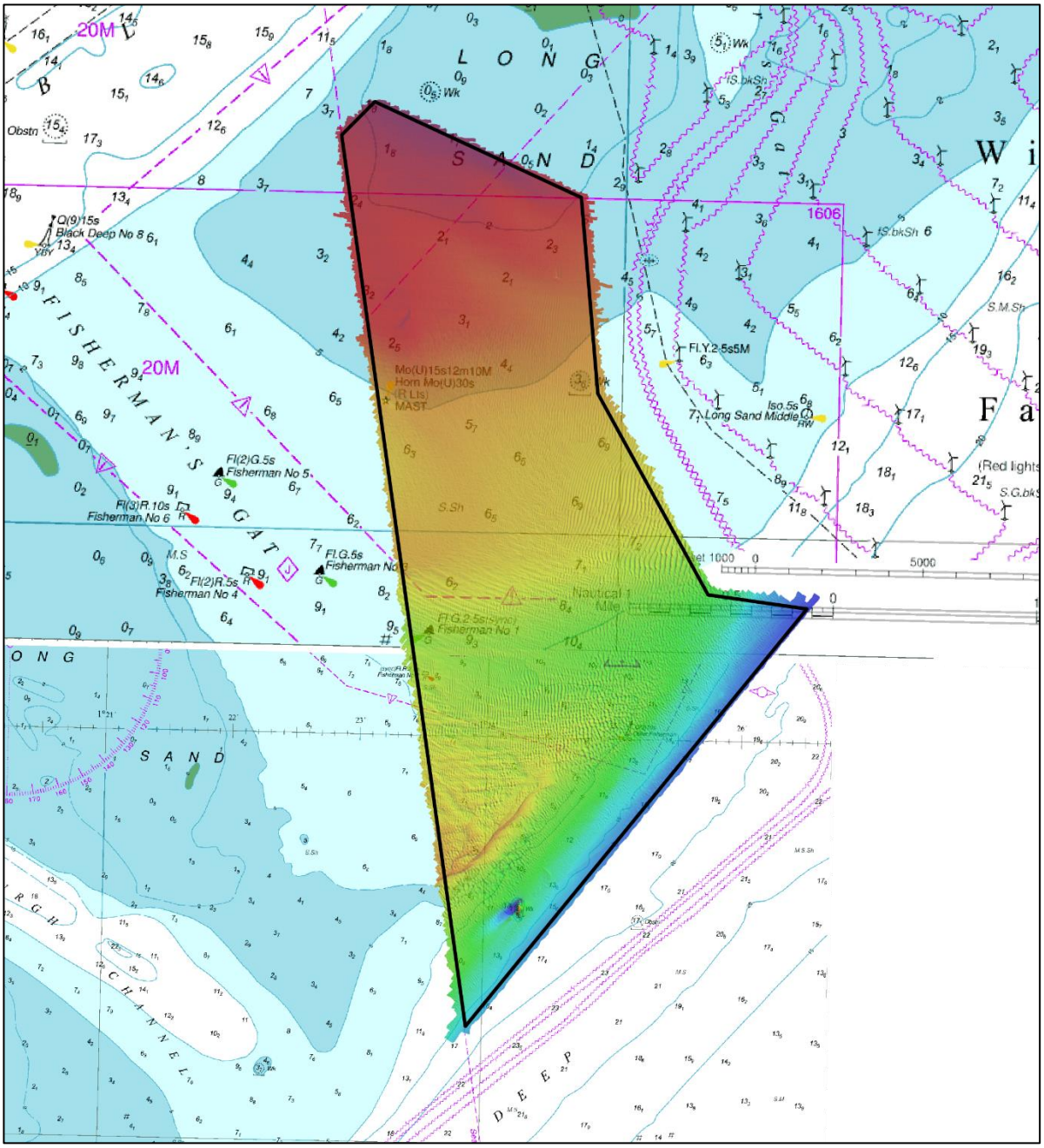


Figure 2 – 2017 TE19 survey data sun-illuminated view overlaid on BA Chart 1606 and 1975

3. REFERENCE SURVEY DETAIL

3.1 HI 1119 was surveyed in June 2005. The only surface from this survey available for comparison is a gridded surface that has been exported from the original full density data.

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 TE19 was surveyed in August, September 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 since 2005 depths have not changed significantly over the majority of the TE19 area.

5.2 Figure 3 shows that between 2005 and 2017 the large sandwave in the south of the area has migrated north-west. The shoal depths over the ridge of this sandwave have not changed significantly.

5.3 The area of ripples in the middle of the survey area has migrated westwards. Depths in this region have remained similar.

5.4 The sandy flat region in the north of the survey area has migrated northwards towards Long Sand bank.

5.5 Depths within the charted Fisherman's Gat Precautionary Area have generally remained similar or deepened slightly.

5.6 The controlling depth within the charted Fisherman's Gat Precautionary Area is 7.6m at the western edge of the 2017 survey area close to the Fisherman No 1 buoy. The controlling depth within this area in 2005 was 6.4m.

5.7 Figure 4 shows that the charted wreck in the north of the survey area has shoaled from 5.1m in 2005 to 4.6m in 2017. The charted wreck at the southern tip of the survey area has deepened from 2.5m in 2005 to 3.8m in 2017.

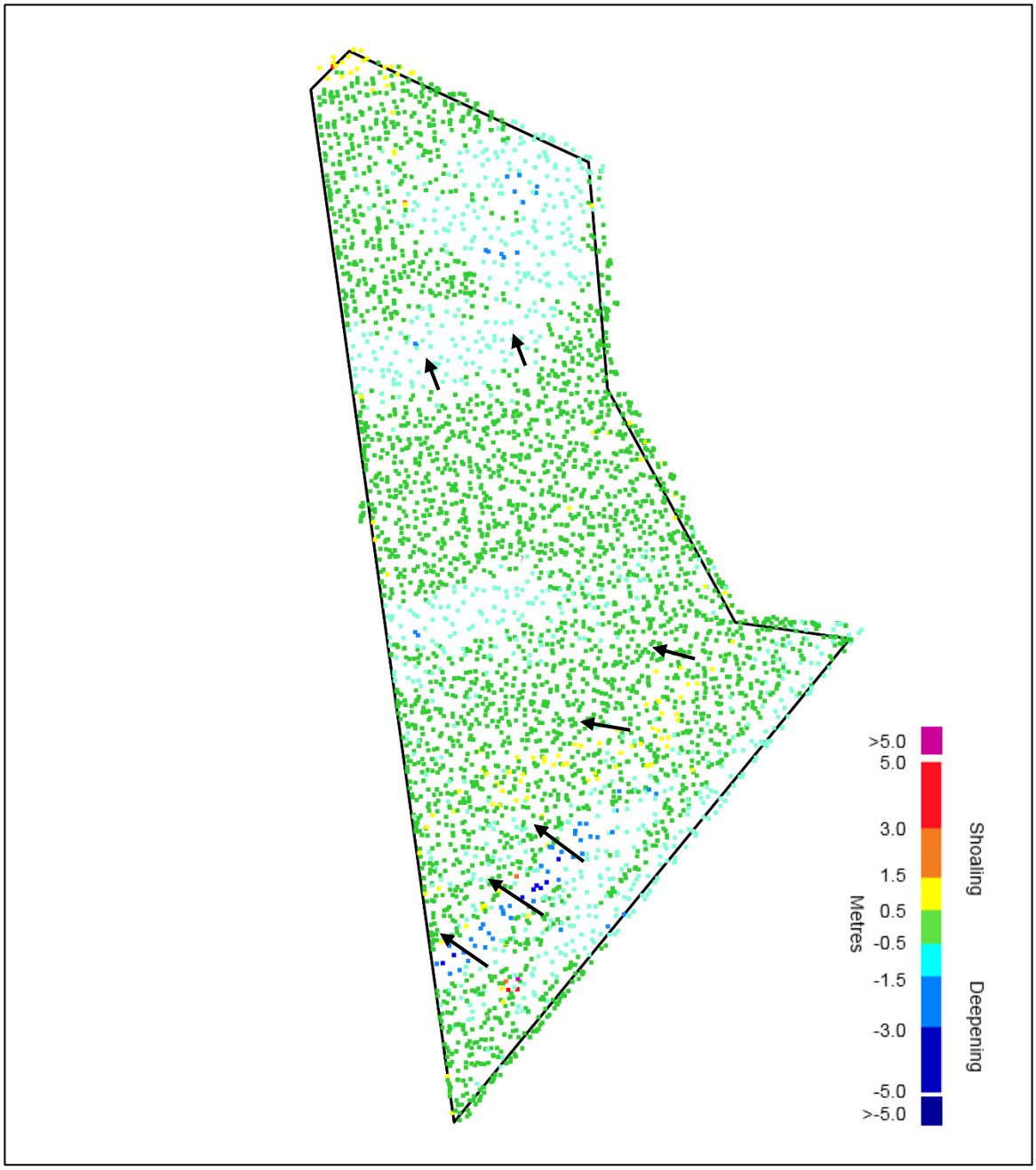
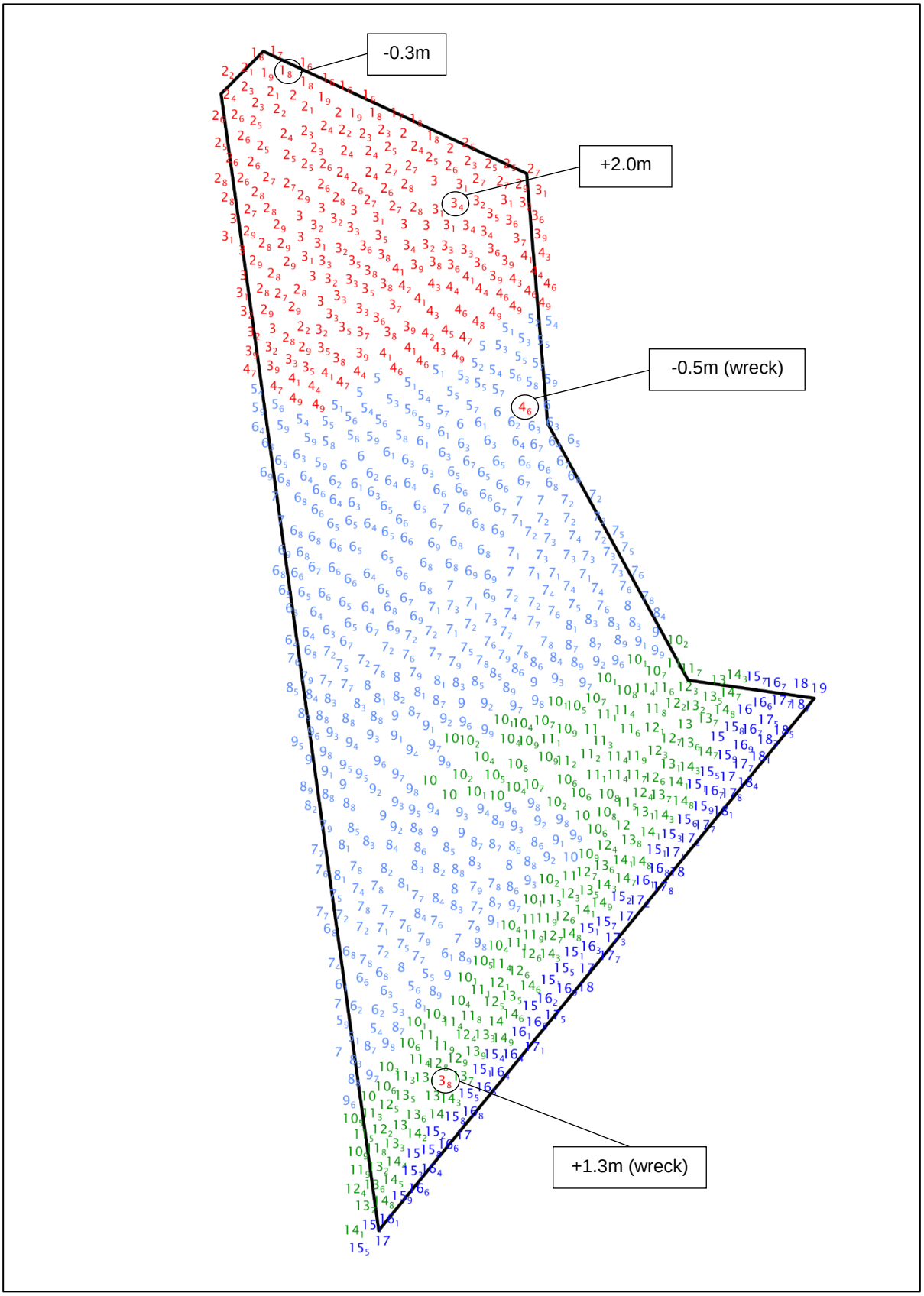


Figure 3 – Difference plot 2005 vs 2017 survey (black arrows represent direction of sandwave migration)



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 2005 survey

6. RECOMMENDATIONS FOR FUTURE SURVEYS

Survey Interval

6.1 Despite the large sandwave in the south of the survey area moving north-westwards towards Fisherman's Gat, the sandwave is still far from encroaching on this area of manoeuvring traffic. Controlling depths have also not changed significantly since 2005. Therefore, the 12 year survey interval should remain the same.

Survey Area

6.2 The survey area should remain the same to continue the long-term monitoring of sandbank changes in the north and sandwave/ripple movement in the middle and south of the survey area.