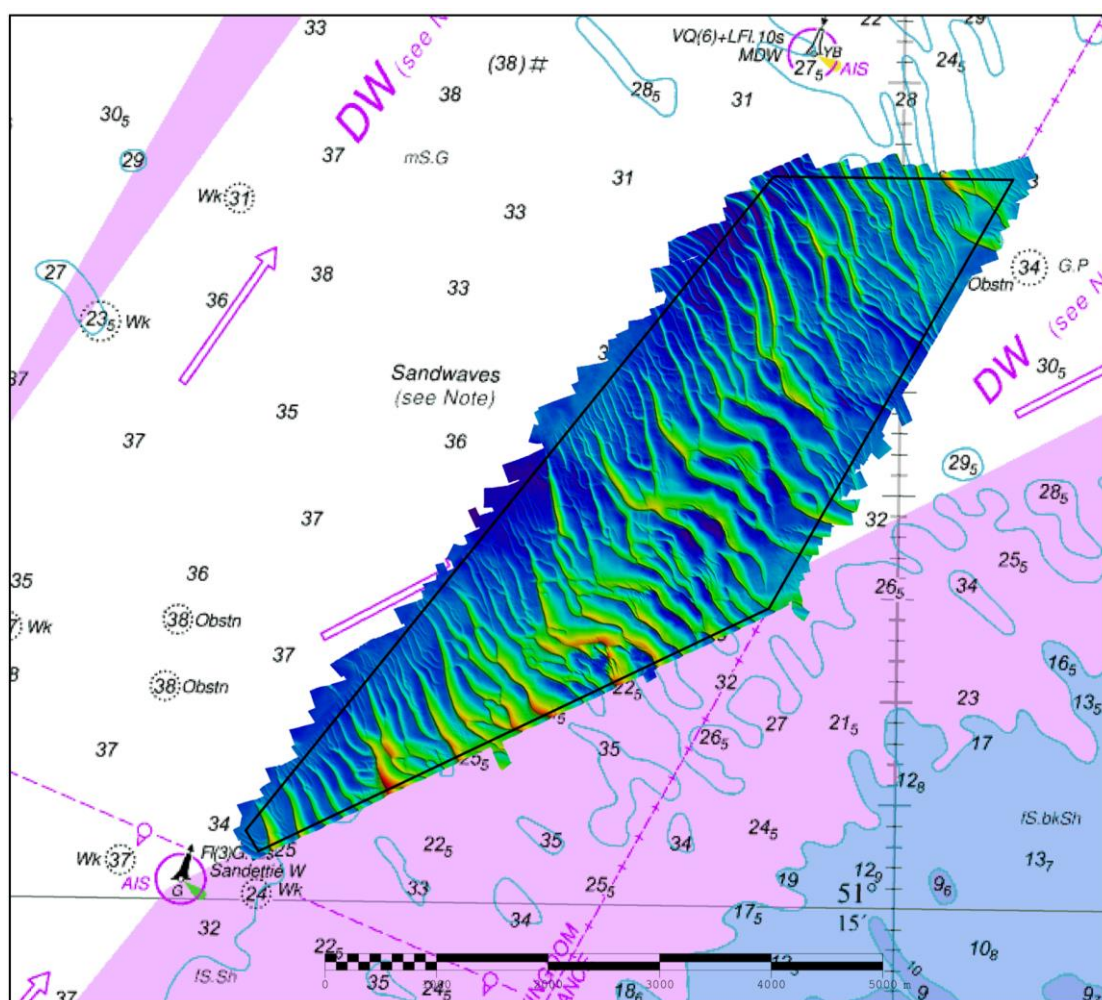


DOVER STRAIT WEST SANDETTIE (DWR H) 2025 ASSESSMENT

An assessment of the 2025 hydrographic survey of the area DWR H: to monitor recent seabed movement; to identify any implications for shipping; and to make recommendations for future surveys.



CONTENTS

1. SUMMARY	1
2. LOCATION	1
3. REFERENCE SURVEY DETAIL	3
4. NEW SURVEY DETAIL	3
5. DESCRIPTION OF RECENT BATHYMETRIC CHANGE	4
6. RECOMMENDATIONS FOR FUTURE SURVEYS	10

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 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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All depths are to Chart Datum, defined using the UKHO Vertical Offshore Reference Frame (VORF) Model.

WEST SANDETTIE (DWR H), 2025

1. SUMMARY

Changes Detected

- 1.1 Sandwave movement over the 12 years since the last survey has led to some large changes in depths, both shoaling and deepening.
- 1.2 The shoalest point is 23.8m, in the south of the survey area.
- 1.3 Sandwaves across the area are migrating southwest, with distance varying from 30m to 120m since 2013.

Reasons for Continuing to Resurvey the Area

- 1.4 Sandwaves continue to migrate southwest causing variable depths in a designated Deep Water Route (DWR).

Recommendations

- 1.5 Given the slow rate of sandwave migration, the survey should remain on a 12-year cycle.
- 1.6 The area adequately covers the sandwaves to the east of Sandettie W buoy up to the border of the United Kingdom, no changes recommended.

2. LOCATION

- 2.1 Survey interval at time of resurvey: 12 years
- 2.2 Area Covered: 16.4 km²

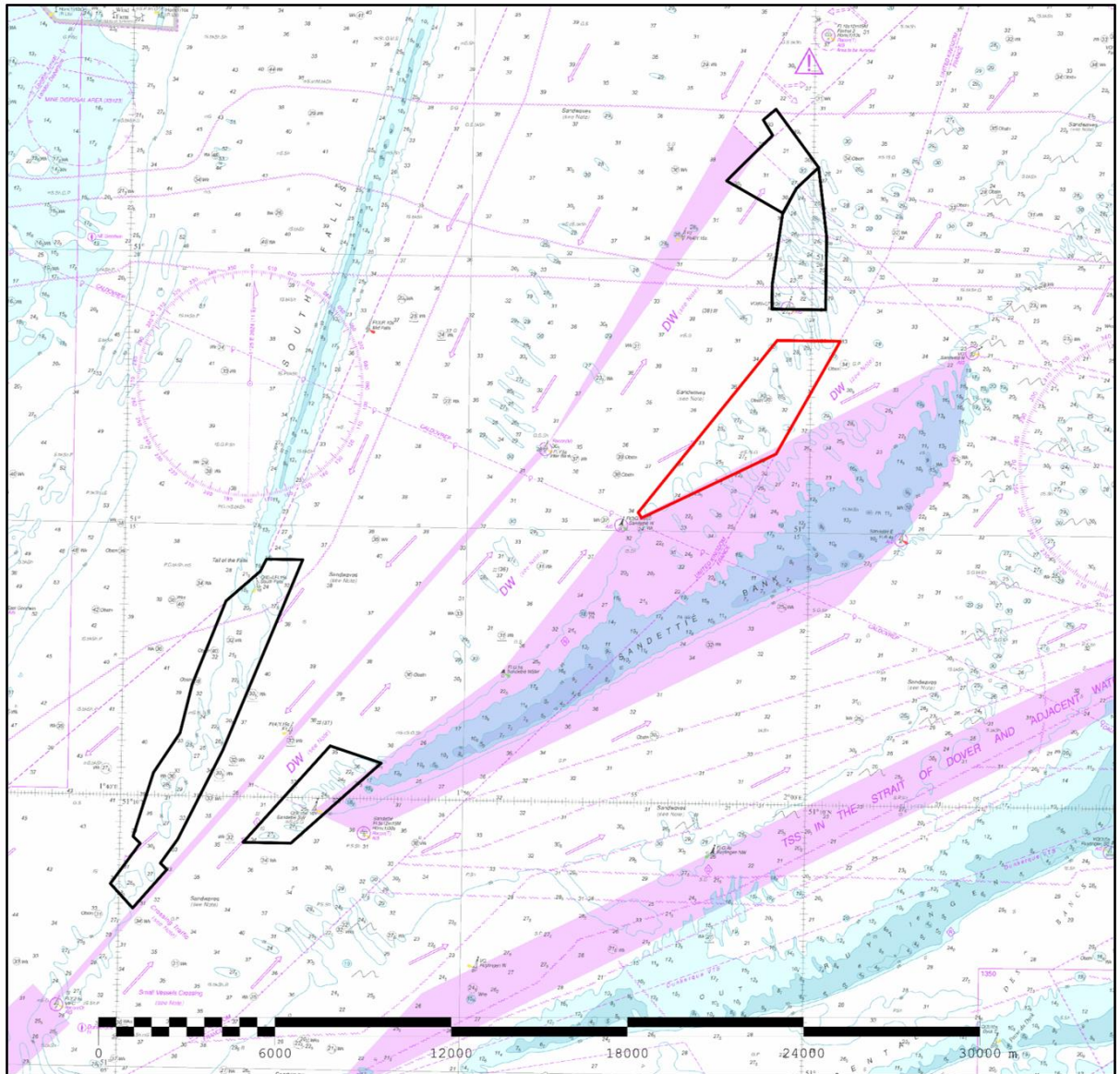


Figure 1: 2025 Deep Water Route Routine Resurvey areas overlaid on BA Chart 0323 with area DWR H in red

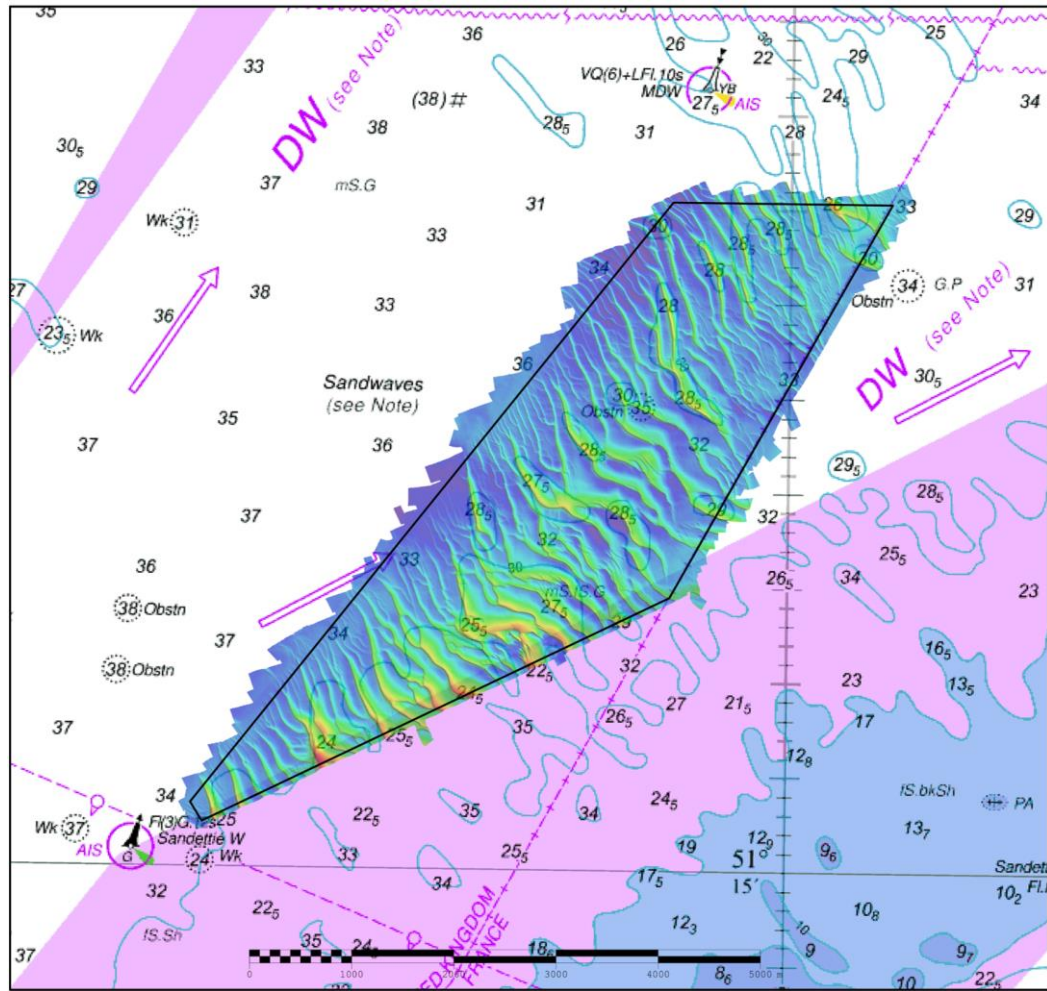


Figure 2: 2025 survey data overlaid on BA Chart 0323-0

3. REFERENCE SURVEY DETAIL

- 3.1 The previous survey was conducted as part of the 2013 Routine Resurvey Programme, in December 2013 as part of HI1434.
- 3.2 The Report of Survey for this survey is available upon request, and the validated bathymetric surfaces are available to download from the Admiralty Marine Data Portal.

4. NEW SURVEY DETAIL

- 4.1 The latest full survey is HI1902, surveyed in May 2025 as part of the 2025 Routine Resurvey Programme.
- 4.2 The Report of Survey for this survey is available upon request, and the validated bathymetric surfaces are available to download from the Admiralty Marine Data Portal.

5. DESCRIPTION OF RECENT BATHYMETRIC CHANGE

- 5.1 Figure 3 shows the shoalest depth in the survey is 23.8m, found in the southwest. This has shoaled by 10.5m since 2013 due to sandwave movement. The shoalest depth in the 2013 survey was 24.1m, found 200m to the north.
- 5.2 Other significant depths are seen on sandwave peaks shown in Figure 3, showing variation in depth changes. The 28.3m depth has shoaled by 7.8m since 2013, whereas the 28.5m depth in the north of the survey has only shoaled by 1m in the same period. These have all shoaled slightly compared with the least depth over the same sandwaves in 2013.
- 5.3 The difference surface in Figure 4 shows there has been sandwave migration consistently across the survey area in a southwestern direction, causing both deepening and shoaling of over 9m.
- 5.4 This southwesterly movement can also be seen in the 30m contour shown in Figure 5. In the south of the survey area the contour has migrated between 100-120m. This change decreases towards the north of the survey area, where most of the 30m contours have only changed by 40-60m since 2013. The profile in Figure 6 shows the movement of sandwave crests between 2013 to 2025 ranges from approximately 30m to 50m to the southwest.
- 5.5 The depth plot in Figure 7 shows there are significant depth changes where sandwaves have migrated; the 29.2m depth has shoaled by 7.5m since 2013, however where sandwaves are not present there has been little to no change, as seen in the 37m depth which has not changed since 2013.
- 5.6 Figure 8 shows AIS data from 2025. There is higher traffic in the northwestern half of the survey area where the depth changes are less extreme than in the south.

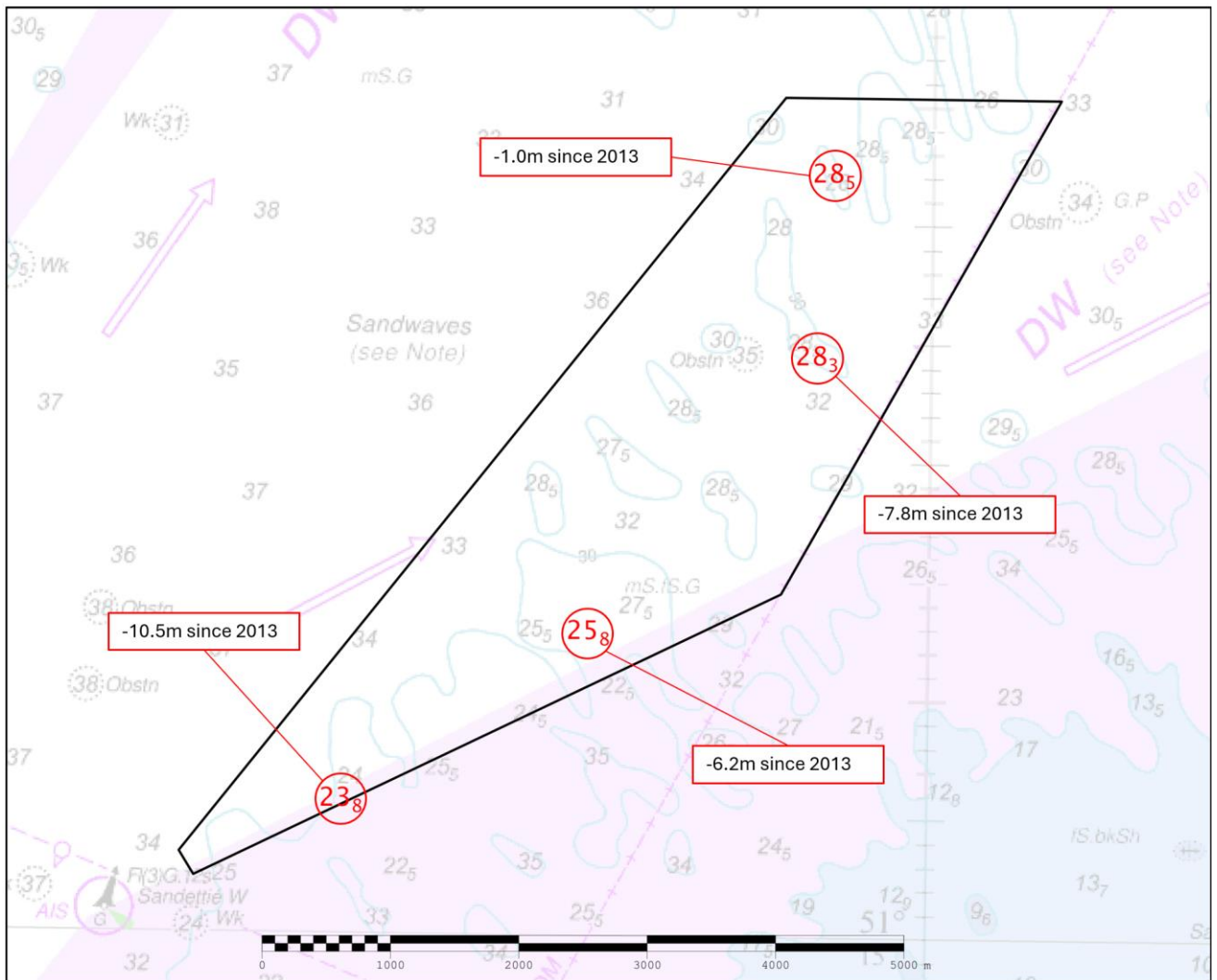


Figure 3: Significant Depth soundings highlighted, overlaid on BA Chart 0323-0

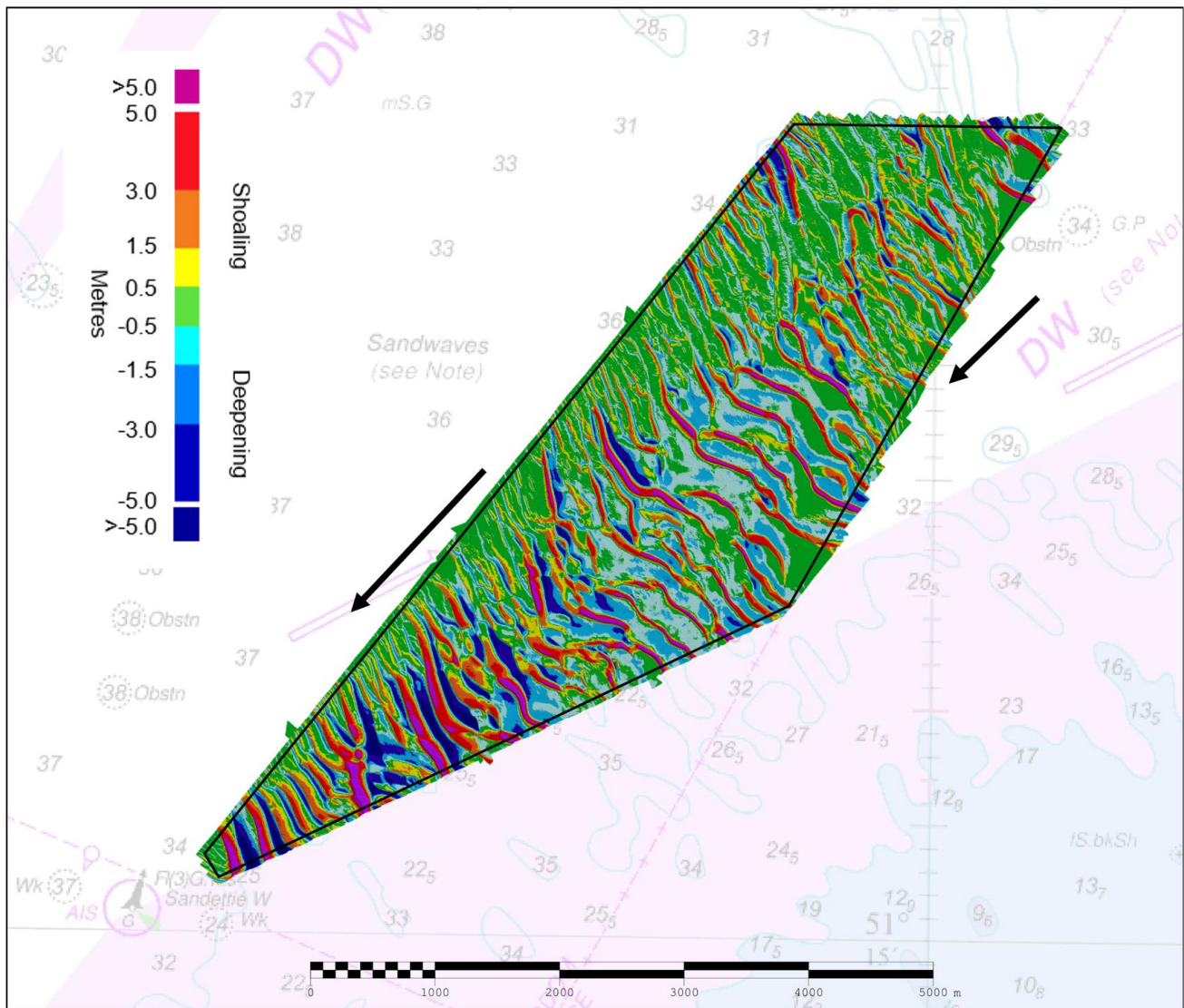


Figure 4: Difference surface showing bathymetric changes between the 2025 and 2013 surveys overlaid on BA Chart 0323-0 (Black arrows represent sandwave migration since 2013 survey)

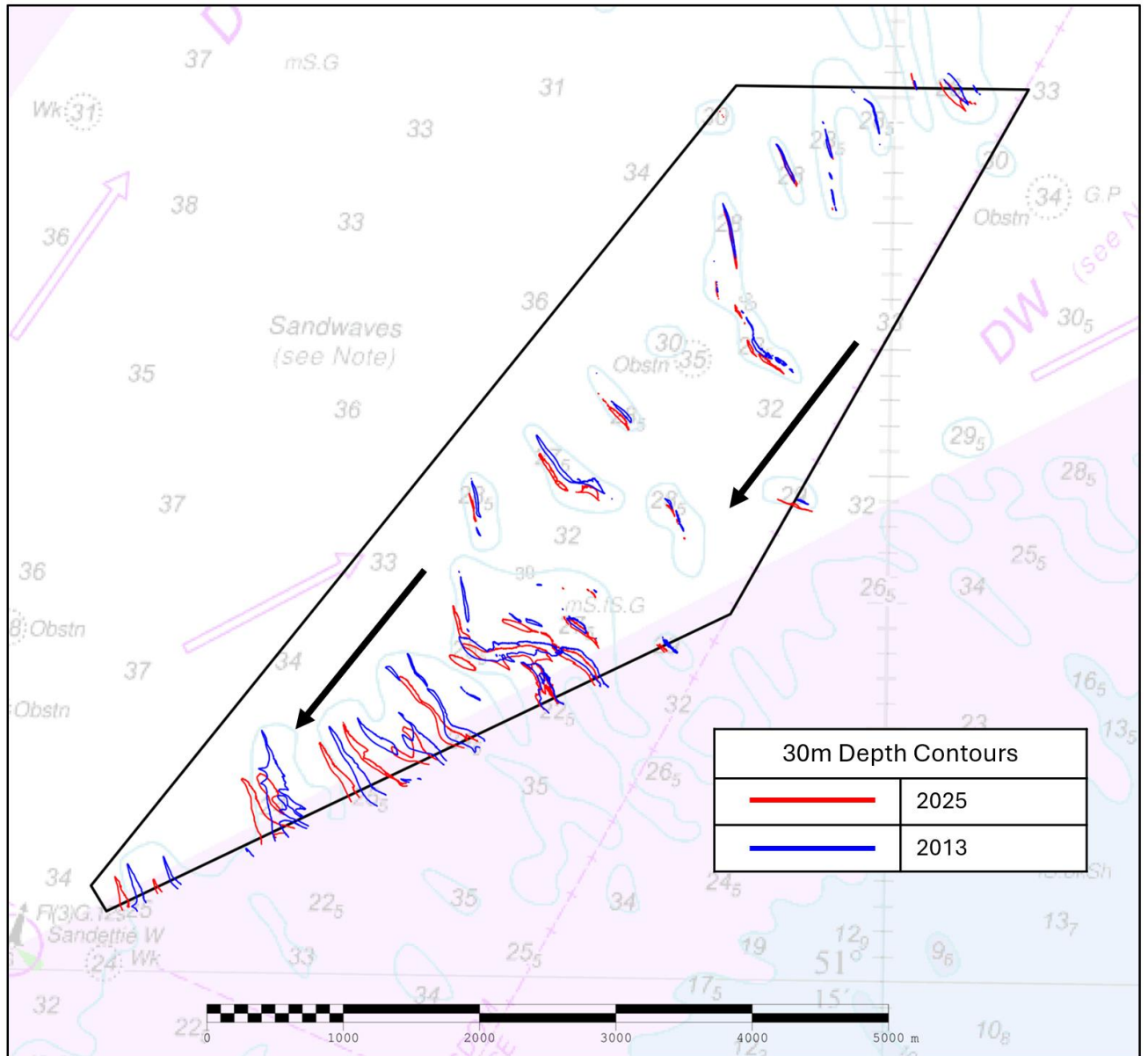


Figure 5: Contour plot showing changes in the 30m contours between 2025 (red) and 2013 (blue). Black arrow represents feature migration.

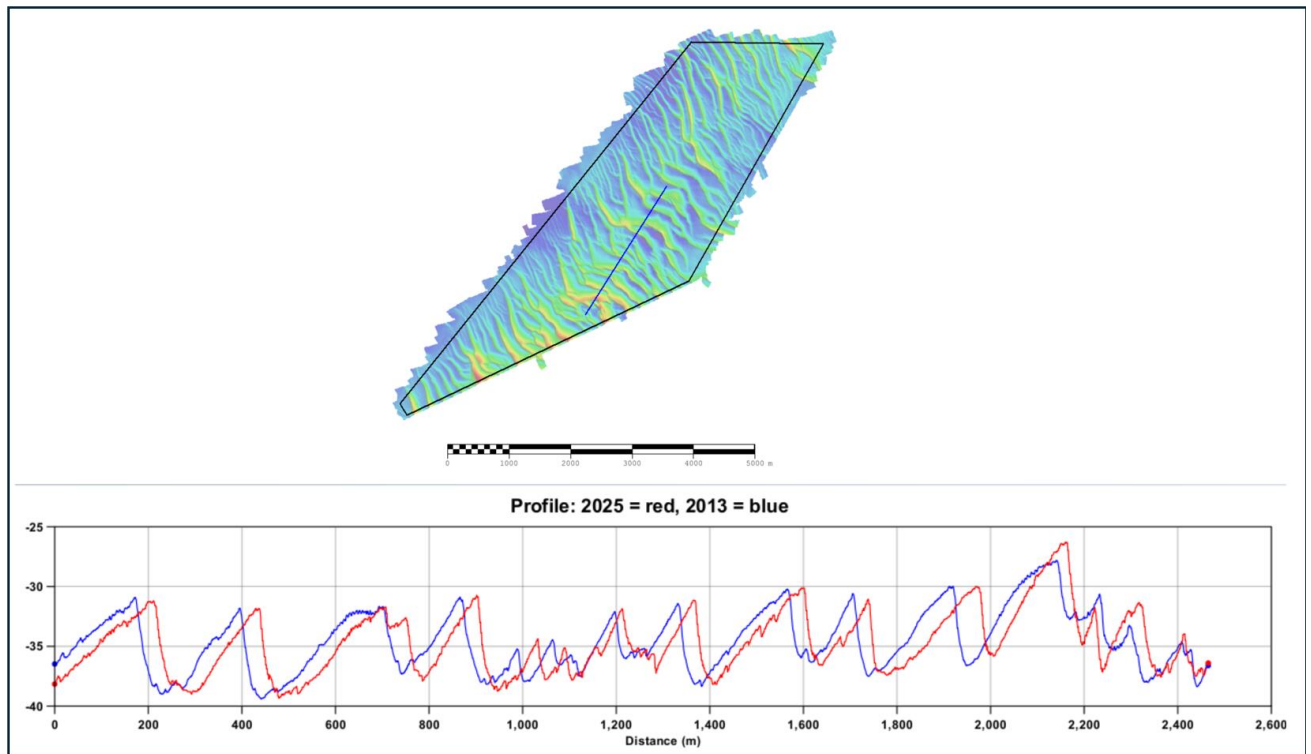


Figure 6: Profile between 2025 (red) and 2013 (blue) surveys. Profile line depicted by blue line on survey image above.

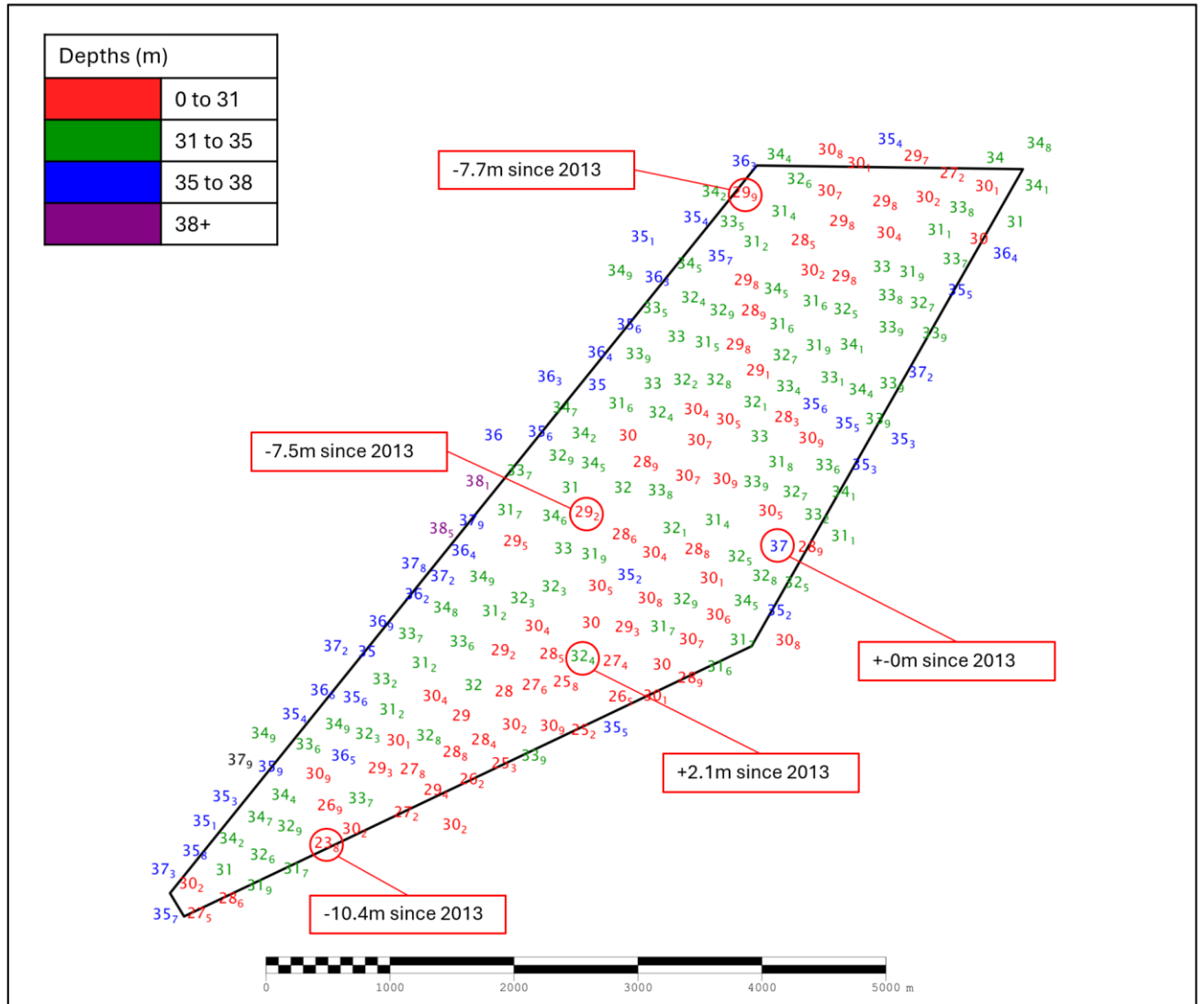


Figure 7: Colour banded depth plot from the 2025 survey with selected depth changes since the 2013 survey. Positive values (+) represent deepening. Negative values (-) represent shoaling.

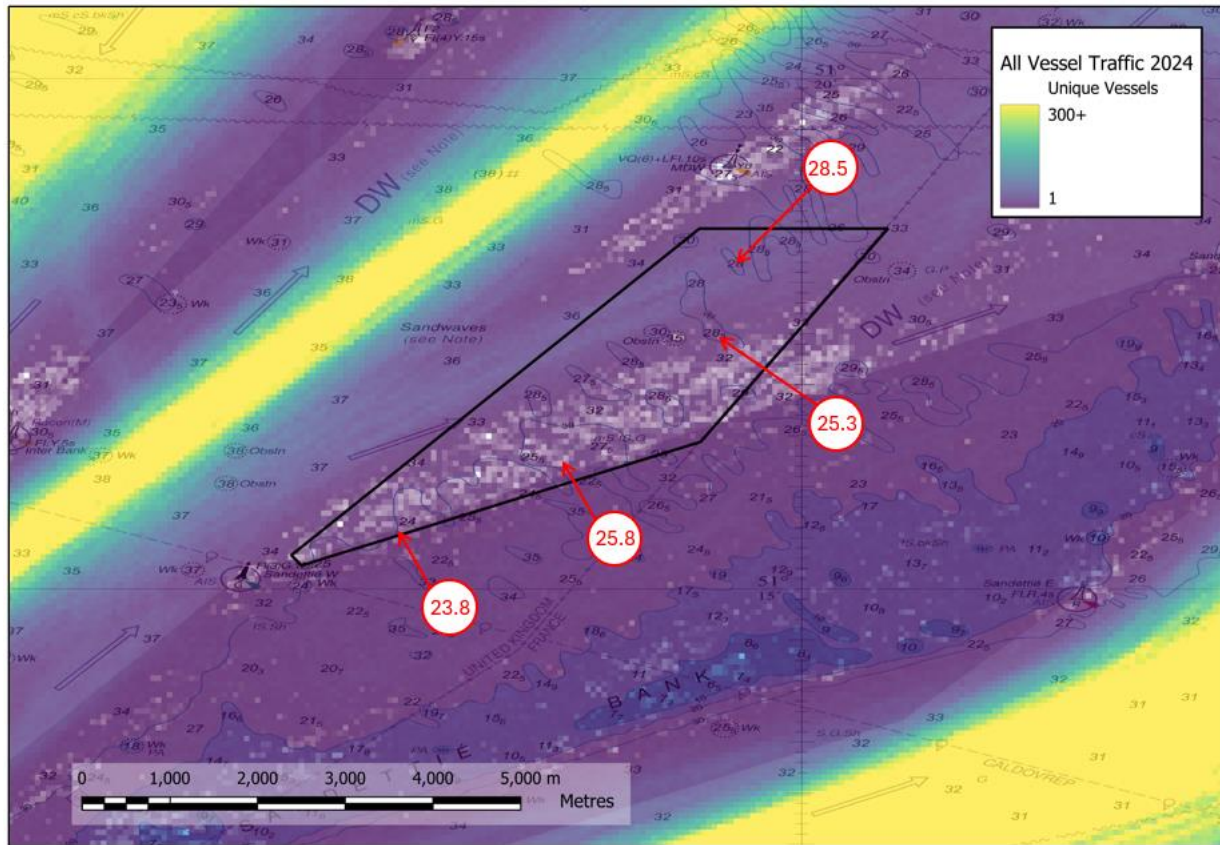


Figure 8: AIS heatmap at 100m resolution grid size. Density unit is unique vessels within the grid square within 2024. DWR H area in black and significant depth soundings (m) overlaid on chart 0323

6. RECOMMENDATIONS FOR FUTURE SURVEYS

Survey Interval

- 6.1 The cause of depth change is almost exclusively sandwave migration, the areas without sandwaves have seen little change. In the 12 years since the area was last surveyed the 30m contour has moved by a maximum of approximately 120m. Due to the slow nature of change it is recommended to keep the survey on a 12-year resurvey cycle.

Survey Area

- 6.2 The area adequately covers the sandwaves in the Sandettie DWR between the Sandettie W Bouy, and the edge of the United Kingdom limits. No change is currently recommended. If the sandwaves continue to migrate southwest the area may need to be extended to the southwest to continue capturing the least depths.