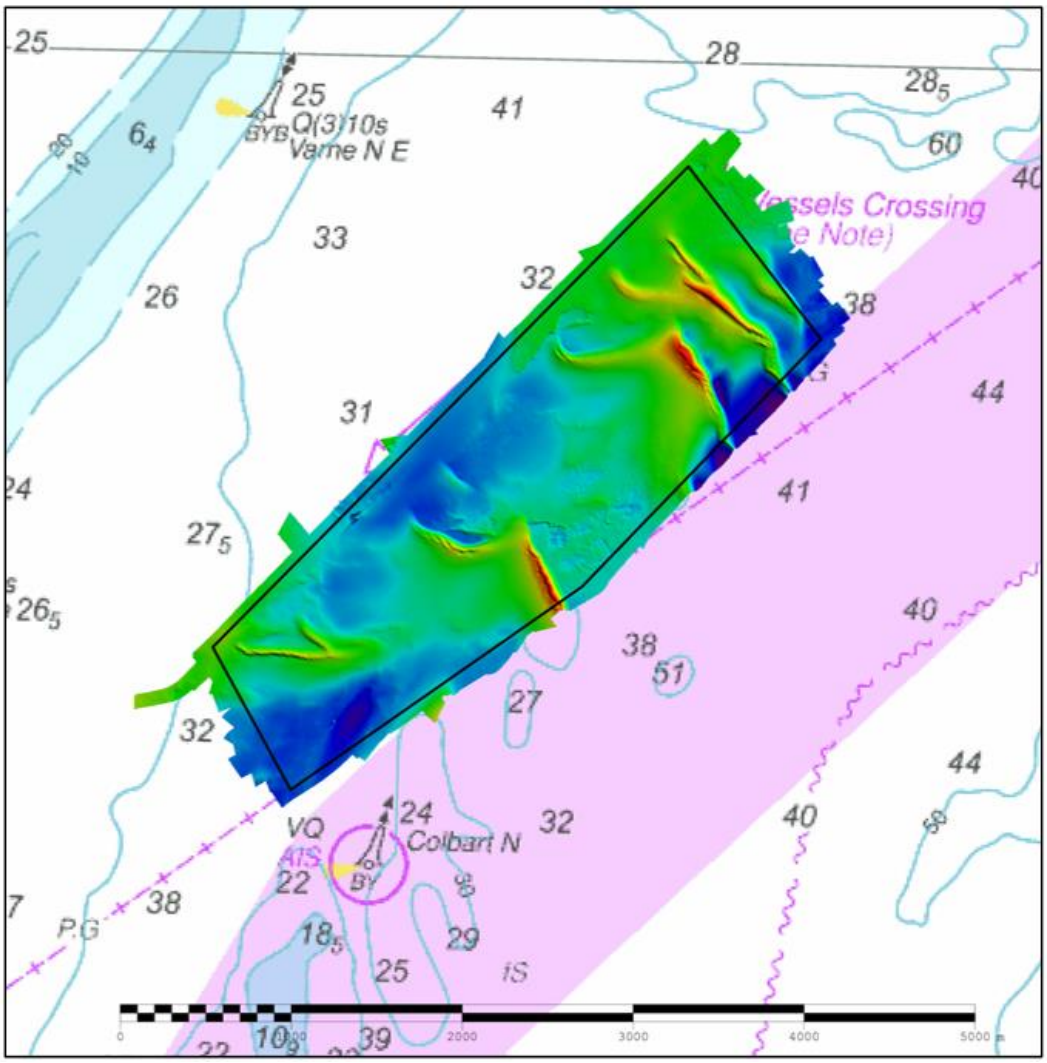
UK Hydrographic Office

DOVER STRAIT
NORTH HEAD OF LE COLBART (DS1)
2025 ASSESSMENT

An assessment of the 2025 hydrographic survey of the area DS1: 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 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).

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.

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

NORTH HEAD OF LE COLBART (DS1), 2025

1. SUMMARY

Changes Detected

1.1 Sandwave movement over the 12 years since the last survey has led to large changes in depths, both shoaling and deepening.

1.2 The controlling depth in the area is now 19.9m, 0.3m deeper than the least depth in 2013, which was seen on a different sandwave.

1.3 Sandwave movement in the last 12 years ranges from 20-70m, all in a northeast direction.

1.4 Areas with no sandwaves see little to no movement indicating no general change.

Reasons for Continuing to Resurvey the Area

1.5 Sandwaves continue to migrate causing variable depths in an area which sees a high volume of traffic, as seen in Figure 7.

Recommendations

1.6 Given the slow rate of sandwave migration and minimal depth change in the rest of the area, the survey should remain on a 12-year cycle.

1.7 The area should be extended north by 100m to account for migration of the 30m contour.

2. LOCATION

2.1 Survey interval at time of resurvey: 12 years

2.2 Area Covered: 4.79 km^2

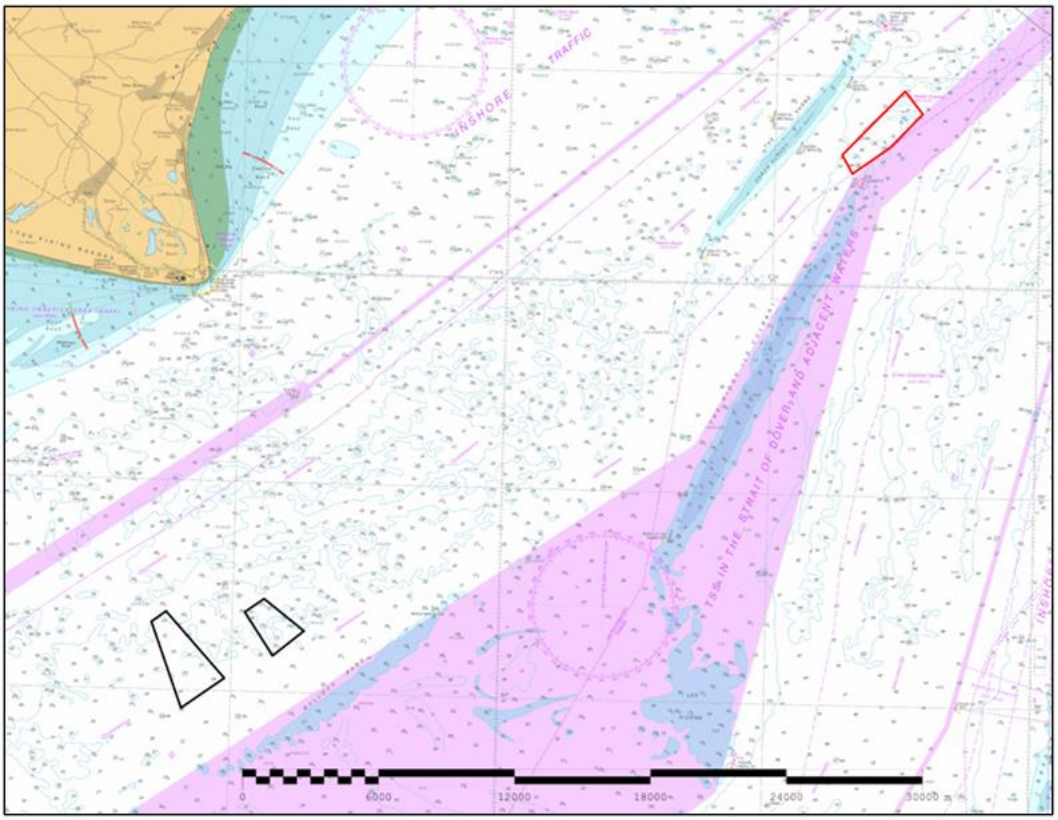

Figure 1: 2025 Dover Strait Routine Resurvey areas overlaid on BA Chart 1892 with area DS1 in red

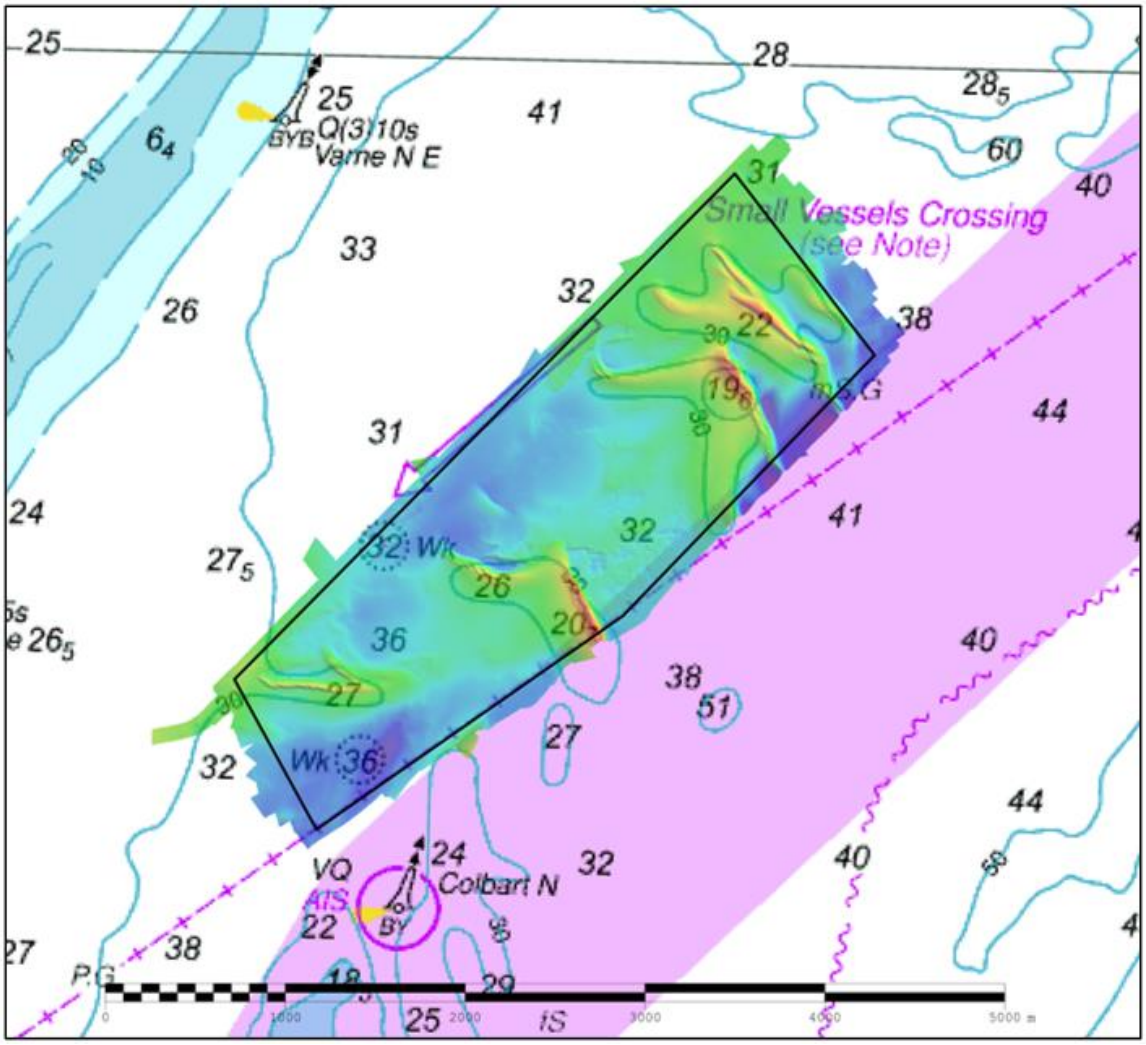

Figure 2: 2025 survey data overlaid on BA Chart 1892

3. REFERENCE SURVEY DETAIL

3.1 The previous survey HI1434 was surveyed in December 2013 as part of the 2013 Routine Resurvey Programme.

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 survey is HI1904, 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 that the controlling depth in the 2025 survey is 19.9m, located in the north of the survey, in a highly trafficked area (see Figure 7). Due to sandwave movement this location is 9.5m shoaler than the same location in 2013. The least depth in the 2013 survey was 19.6m, located on a different sandwave, approximately 100m south of the 20.3m depth shown in Figure 3.

5.2 Other significant depths are seen on peaks of sandwaves, such as the 26.4m sounding seen in the middle of the survey area in Figure 3 which is 6.8m shoaler than 2013, but 0.3m deeper than the least depth over the same sandwave in 2013 located 50m south.

5.3 The difference surface in Figure 4 shows there has been some large depth changes since 2013 due to sandwave movement. The largest change noted is a shoaling of 16.8m since 2013 as seen in Figure 3, where the depth in this location in 2025 is 27.0m compared to 44.8m in 2013. Figure 4 indicates there has also been significant deepening as the sandwaves migrate northeast. This can also be seen in Figure 6 where the 30.9m sounding has deepened by 3.7m since 2013; 50m to the northeast of this point a deepening of 8.3m was identified – the largest positive depth change in the survey area since 2013.

5.4 Figure 5 shows migration of the 30m contour since 2013. There has been consistent movement in a northeasterly direction, with the northern contours moving slightly further (60-70m since 2013) than the southern 30m contours (20-40m since 2013).

5.5 In areas not affected by sandwave movement there has been very little change, as can be seen in Figure 6 where several soundings showed no change in the last 12 years. This is also visible in Figure 4 where much of the area is green, indicating less than 0.5m +/- depth change.

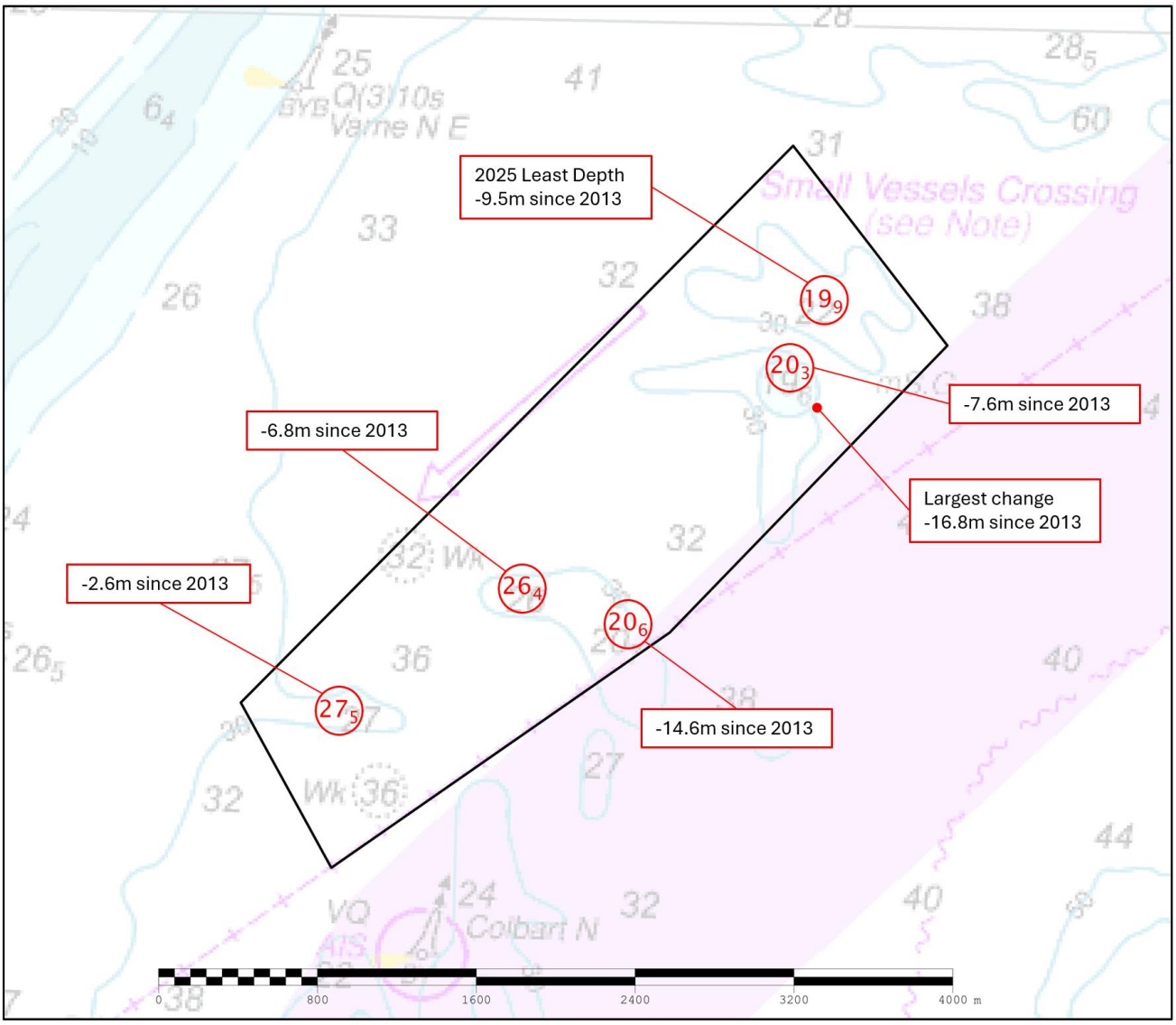

Figure 3: Controlling and significant depth soundings highlighted, overlaid on BA Chart 1892

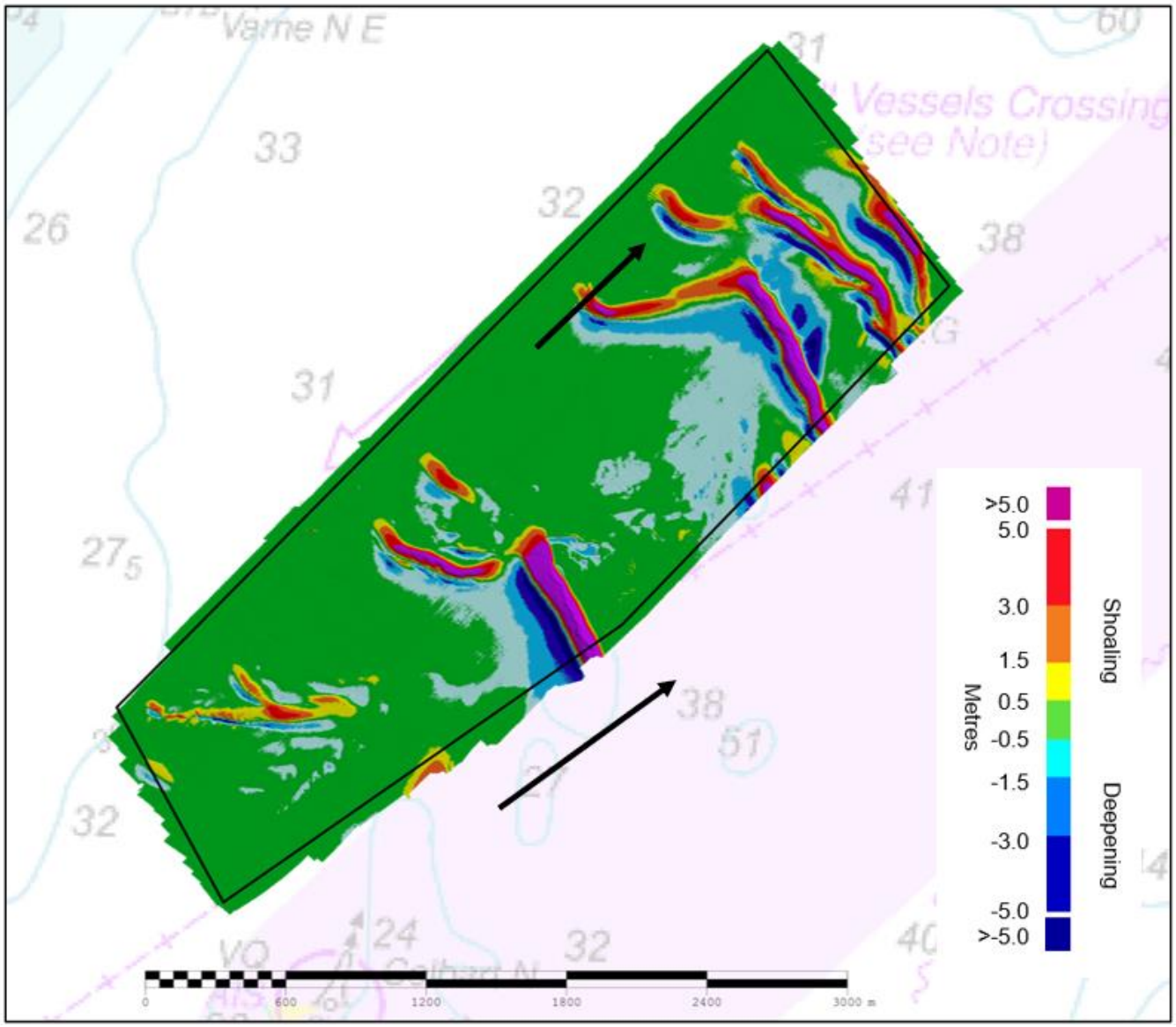

Figure 4: Difference surface showing bathymetric changes between the 2025 and 2013 surveys overlaid on BA Chart 1892 (Black arrows represent sandwave migration since 2013 survey)

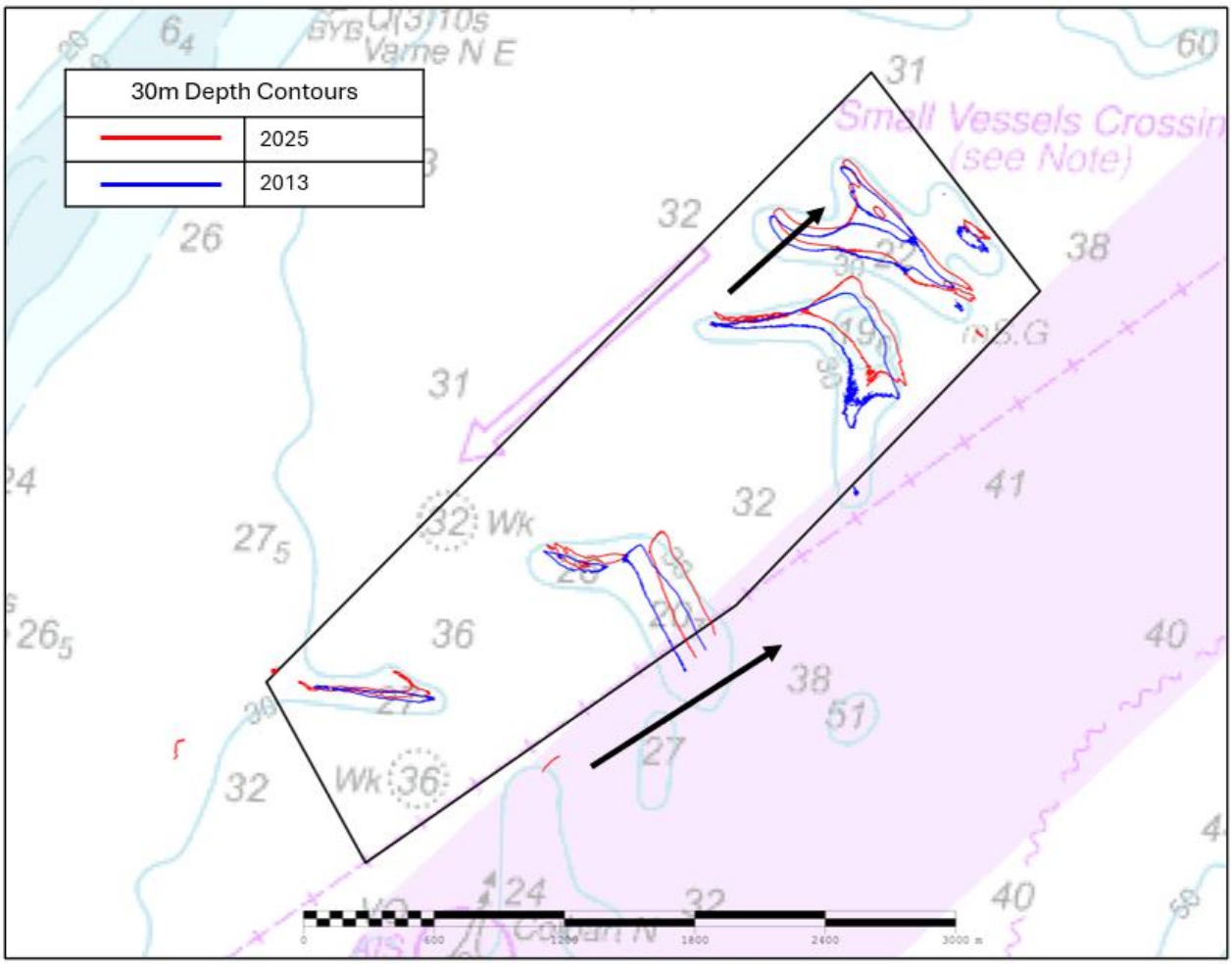

Figure 5: Contour plot showing changes in the 30m contours between 2025 (red) and 2013 (blue). Black arrow represents feature migration.

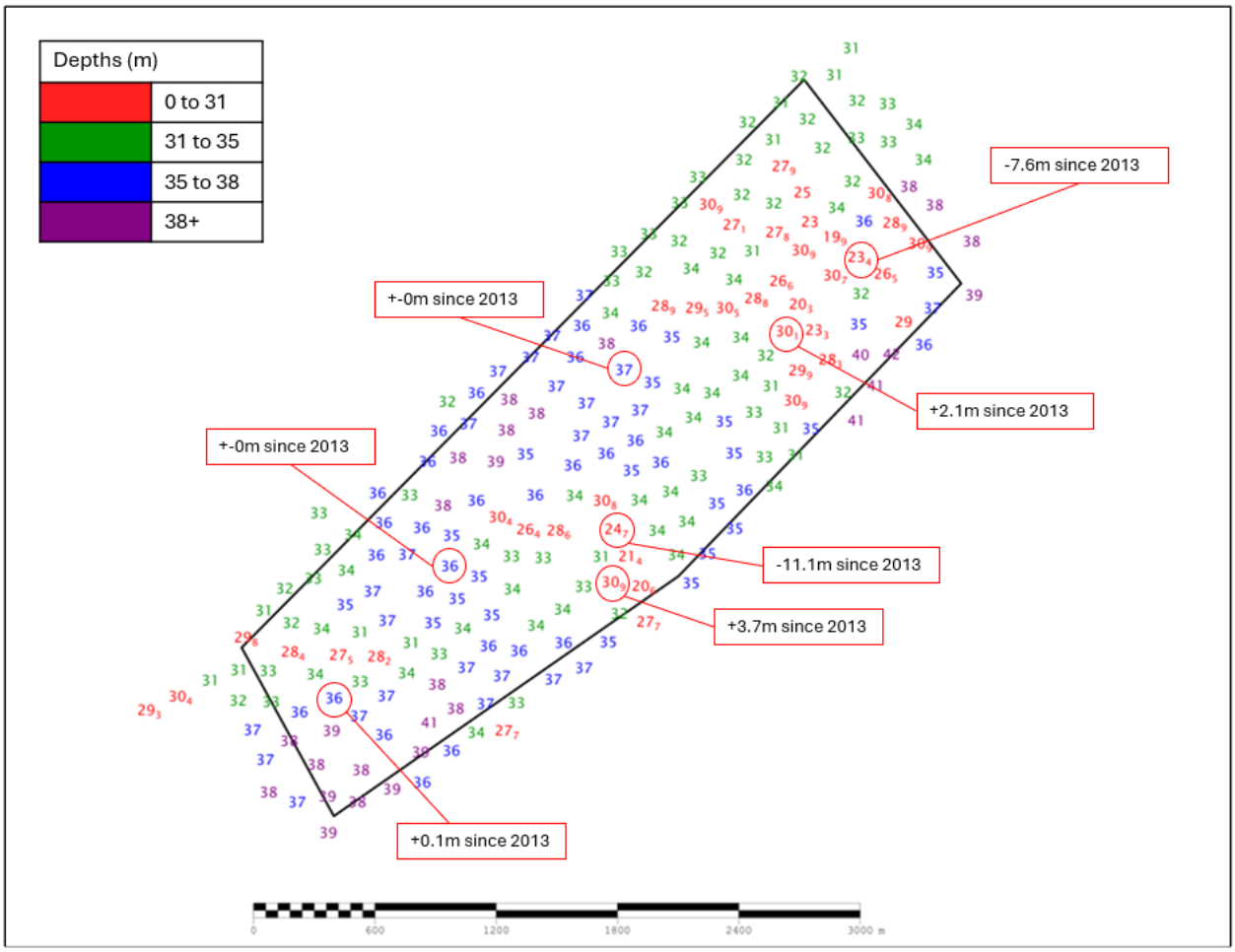

Figure 6: Colour banded depth plot from the 2025 survey with selected depth changes since the 2013 survey. Positive values (+) represent deepening. Negative values (-) represent shoaling.

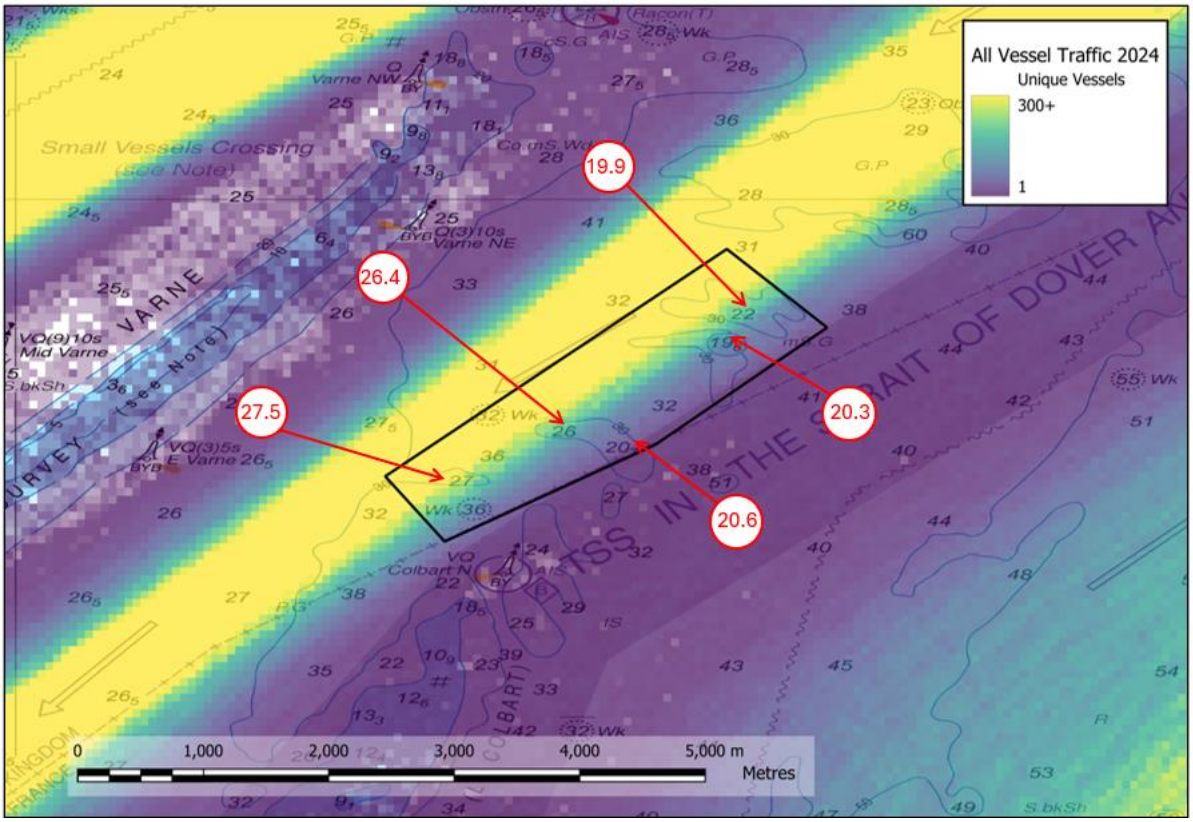

Figure 7: AIS heatmap at 100m resolution grid size. Density unit is unique vessels within the grid square within 2024. DS1 area in black and significant depth soundings (m) overlaid on chart 0323.

6. RECOMMENDATIONS FOR FUTURE SURVEYS

Survey Interval

6.1 The cause of depth change is almost exclusively sandwave migration, as most of the area has seen little change. In the 12 years since the area was last surveyed the 30m contour has moved by a maximum of 70m. Due to the slow nature of change it is recommended to keep the survey on a 12-year resurvey cycle.

Survey Area

6.2 As sandwaves continue to migrate northeast, the 30m contour is approaching the edge of the survey area. Between 2013 and 2025 the most northern 30m contour migrated approximately 60m northeast (see Figure 5). If this movement is consistent, by the next survey in 2037 the contour will be on the boundary of the survey area, therefore an extension of the northeastern border by 100m is recommended.

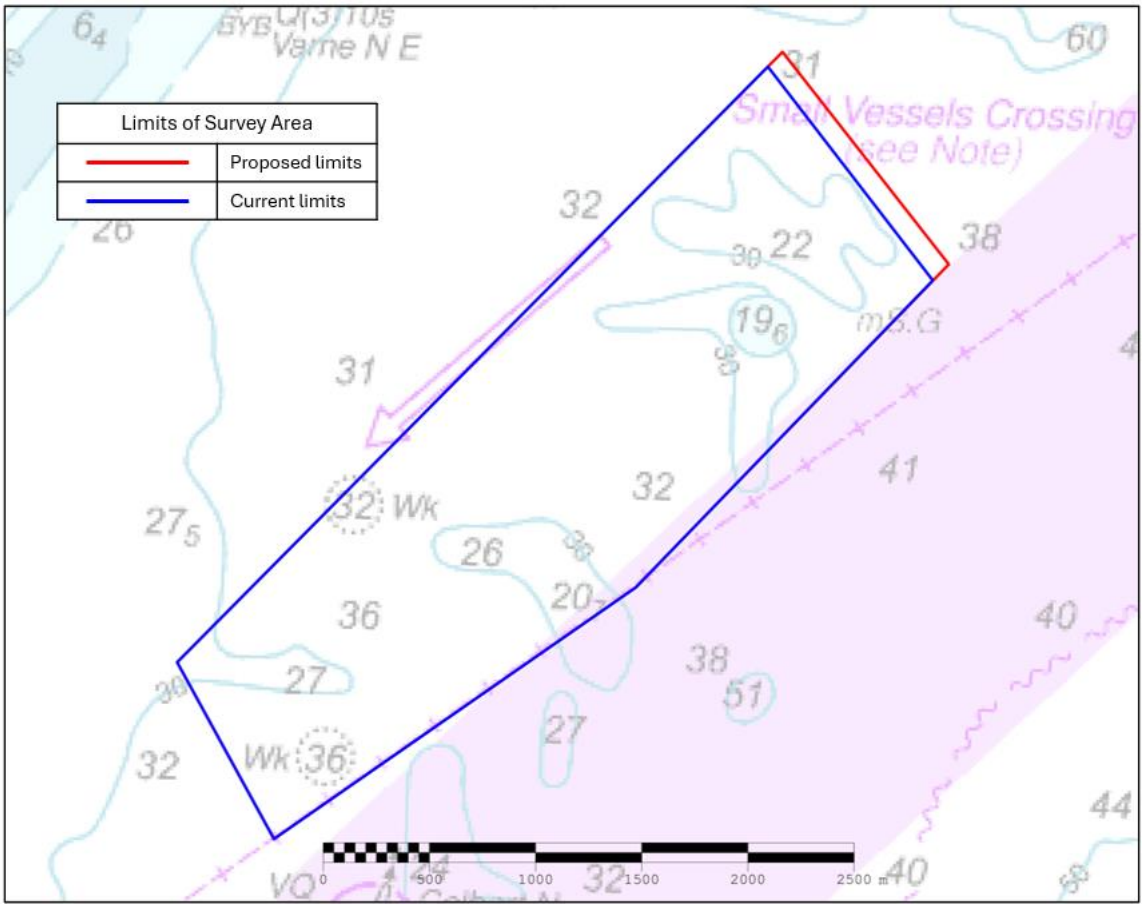

Figure 8: Recommended changes to survey limits of area DS1

The coordinates of the recommended adjusted survey area limits for the 12-year full area DS1 are shown below:

Current Limits:
DS1 total area: 4.79 km^2

Proposed New Limits:
DS1 total area: 4.92 km^2

	Latitude	Longitude
1	50.961200N	001.382000E
2	50.968600N	001.375250E
3	50.995028N	001.414958E
4	50.986178N	001.426417E
5	50.972200N	001.405900E