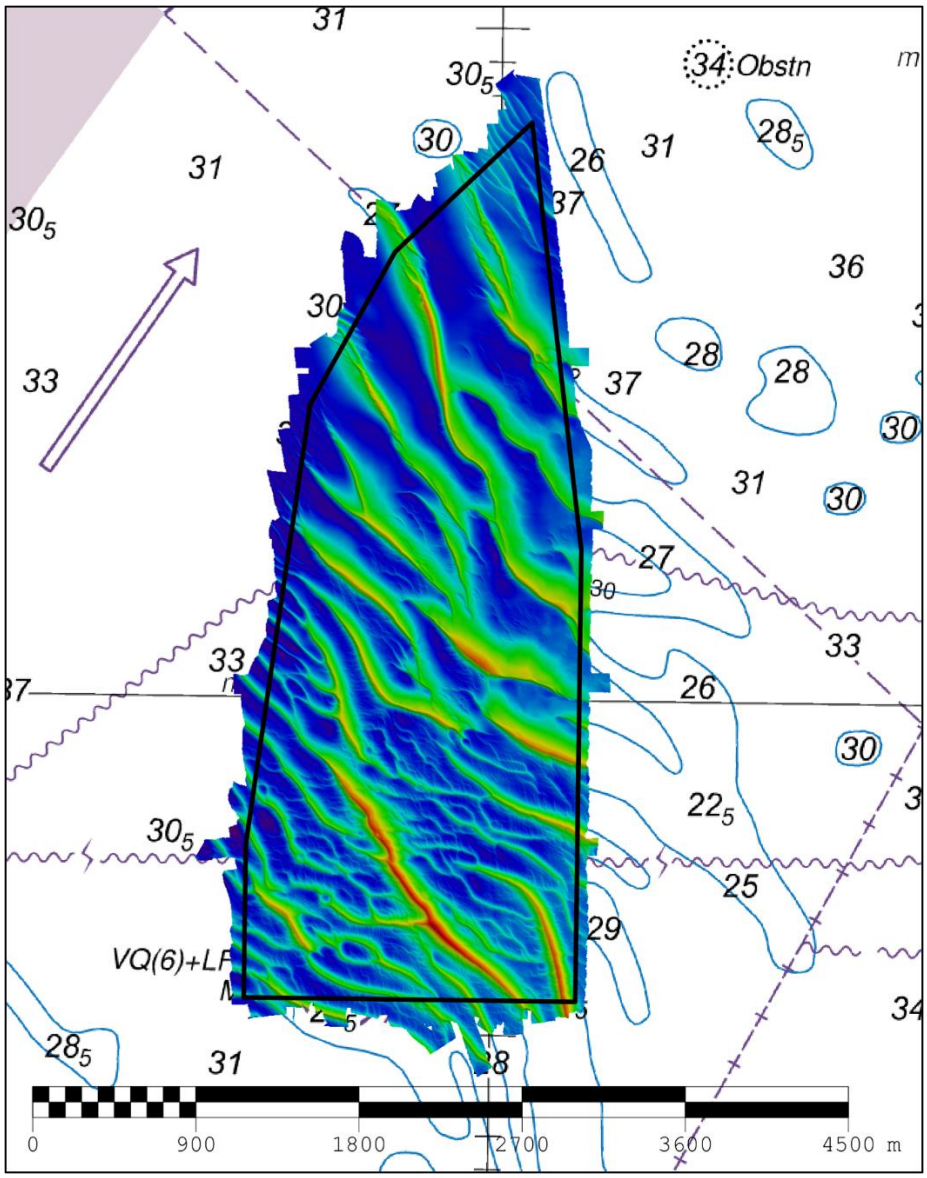
UK Hydrographic Office

DOVER STRAIT
NORTHWEST SANDETTIE FOCUSED (DWR B2)
2025 ASSESSMENT

An assessment of the 2025 hydrographic survey of the area DWR B2: 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).

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

NORTHWEST SANDETTIE (DWR B2) FOCUSED, 2025

1. SUMMARY

Changes Detected

1.1 The least depth of survey area is shoaler in 2025 at 22.1m compared to the previous least depth of 22.2m, located 15m to the southeast in 2019.

1.2 Significant depths in the Deep Water Route (DWR) are 24.8m and 25.5m, these represent least depths on two sandwaves, both of which have deepened since 2019.

1.3 The northern and southern section of the survey area shows sand waves slowly migrating northeasterly, the sections remain relatively stable.

1.4 The large central section of the survey area shows sand waves slowly migrating to the southwest, the section remains relatively stable.

Reasons for Continuing to Resurvey the Area

1.5 Depths in the area remain hazardous and changeable to deep draught vessel navigating the area and therefore require continued monitoring through 6 yearly focused and 12 yearly full resurveys.

1.6 AIS ECDIS vessel data from 2024 in Figure 8 shows high volume of traffic navigating northeast to southwest of the DWR B2 focused area, passing the significant depth 25.5m seen in Figure 3.

Recommendations

1.7 Given the location of the area in relation to the DWR and the draught of vessels navigating the area, DWR B2 should remain on the 12-year survey interval, and the focused area on the 6 year interval.

1.8 The area adequately covers the sand wave field within the primary shipping lane, therefore no changes are recommended.

2. LOCATION

2.1 Survey interval at time of resurvey: 6 years focused, 12 years full.

2.2 Area Covered: 8.44 km^2

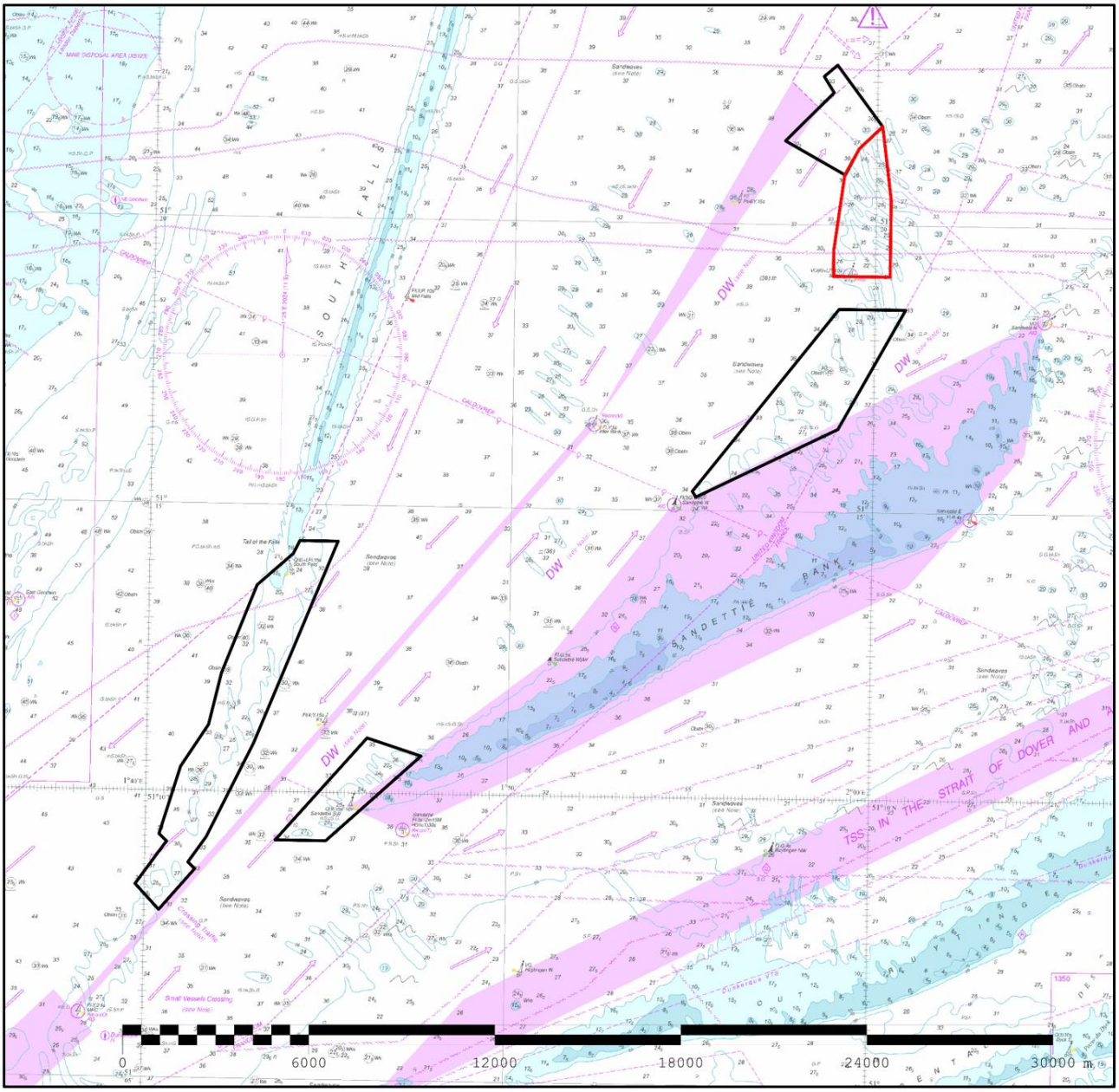

Figure 1: 2025 Deep Water Route Routine Resurvey areas overlaid on BA Chart 0323 with area B2 in red

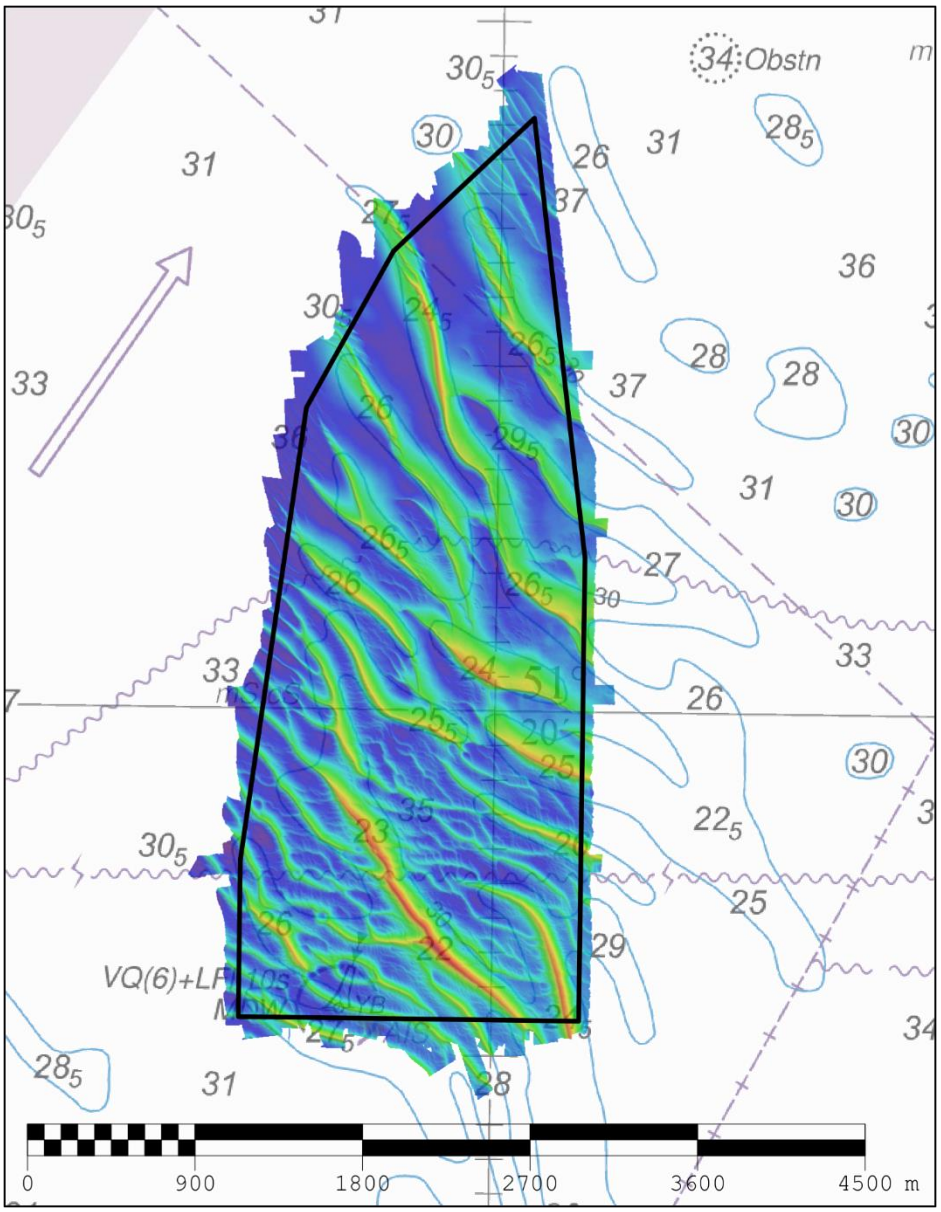

Figure 2: 2025 survey data overlaid on BA Chart 0323

3. REFERENCE SURVEY DETAIL

3.1 The previous full survey was conducted as part of the 2019 Routine Resurvey Programme between June and July 2019 as part of HI1648. It was surveyed prior to this in October to 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 survey is HI1900, conducted 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 Controlling depths from the 2025 survey are shown in Figure 3:

- The least depth in the 2025 survey is 22.1m, 1.1m shoaler than the same location in the 2019 survey and 3.5m shoaler than the 2013 survey. The 2019 survey least depth of 22.2m was located 15m to the southeast. This change is due to sandwave movement.

- There is a controlling depth of 24.8m, located at the centre of the 2025 survey area. This has shoaled by 5.6m in place since the 2019 survey, due to sandwave movement. The 2025 least depth is 0.6m deeper than the least depth on the same sandwave from the 2019 survey which was found 25m to the northeast.

- There is a significant depth of 25.5m, located at the northern section of the 2025 survey area. This has deepened by 0.1m since the 2019 survey and this shoal is 290m located southeast from the previous shoalest depth on the sand wave.

5.2 The difference surfaces in Fig 4 and 5 show stability in depths outside the sand wave areas. The central and southern sections of the survey area show sand wave migration as the greatest depth changes with sand wave migration displaying a maximum shoaling of 8.9m since 2019 and 11m since 2013.

5.3 The 30m contour plot in Figure 6 shows northeasterly sand wave movement in the northern section between the 2025 focused and the 2019 and 2013 full surveys. The central section shows sand waves migrating in the south-westerly direction. The southern most section shows sand wave movement in a northeasterly direction.

5.4 The colour banded depth plot in Figure 7 shows a depth of 27.0m in an area of high vessel traffic. The depth has shoaled by 1.2m since the 2019 and by 1.9m since the 2013 survey. This change is due to sandwave movement, the general depth of the sandwave has deepened since the 2019 survey. A depth of 31.7m has shoaled by 3.9m in the same location as the 2019 survey and shoaled by 5.0m since the 2013 survey.

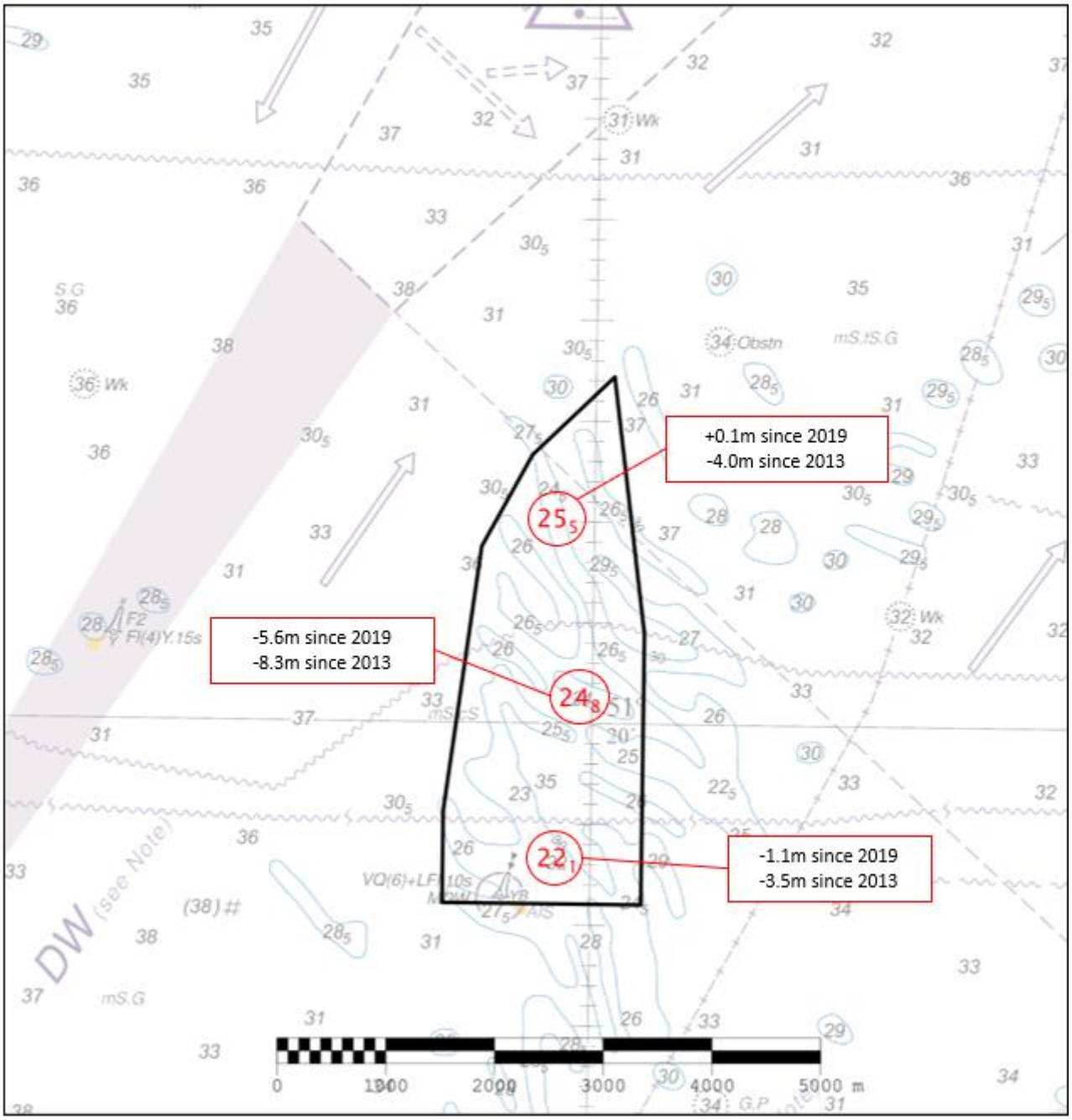

Figure 3: Controlling and significant depth soundings highlighted, overlaid on BA Chart 0323

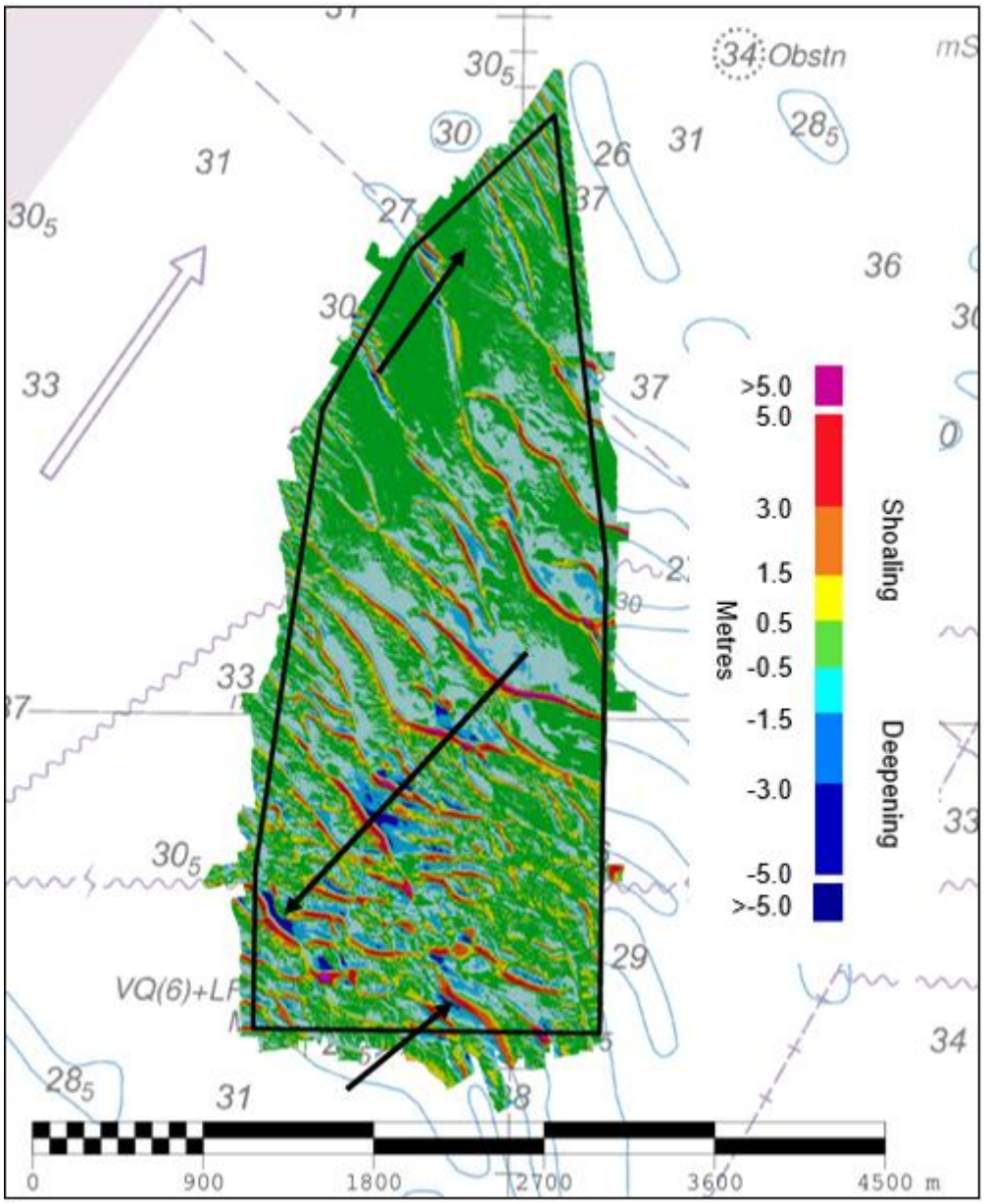

Figure 4: Difference surface showing bathymetric changes between the 2025 and 2019 surveys overlaid on BA Chart 0323 (Black arrows represent sandwave migration since 2019 survey)

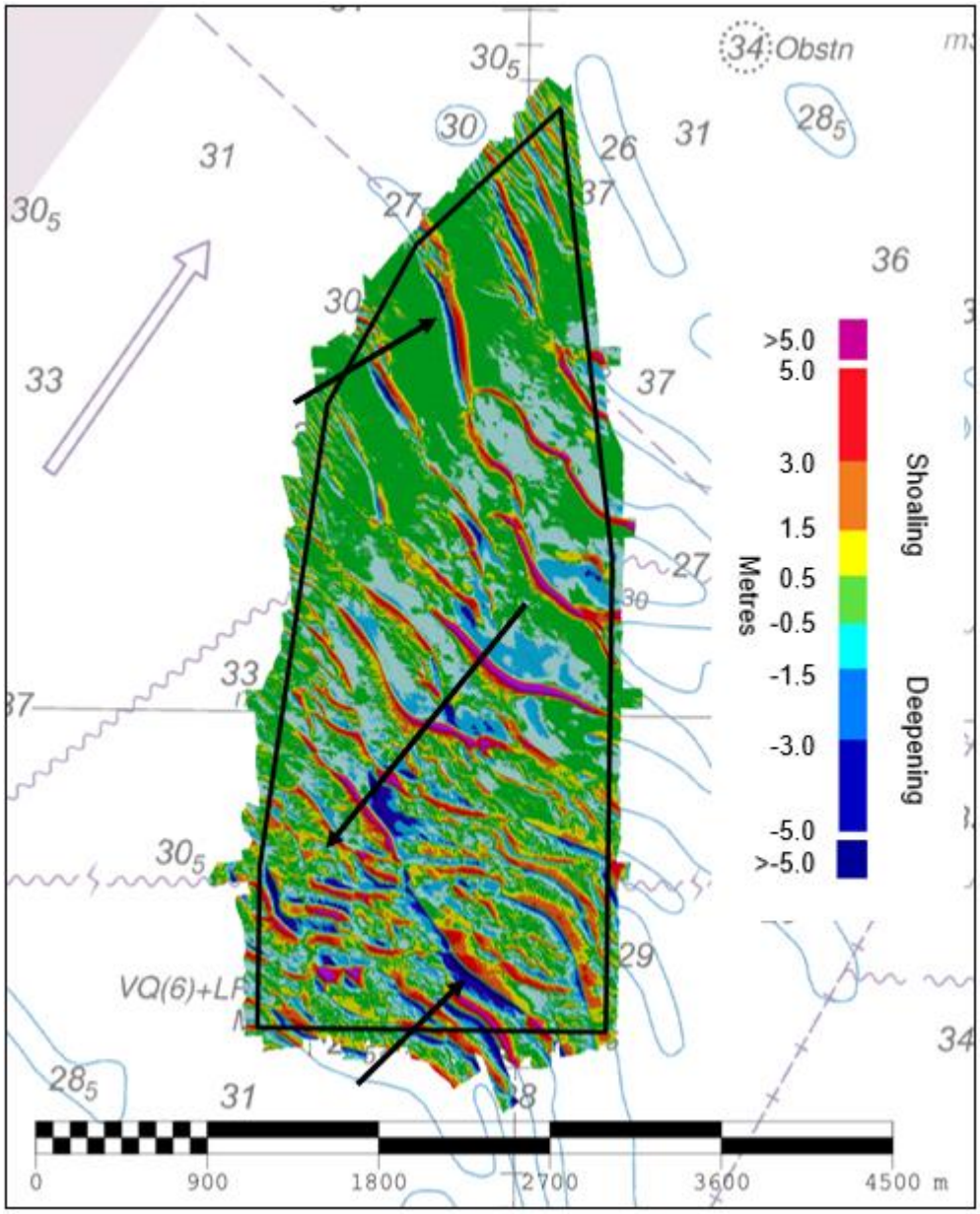

Figure 5: Difference surface showing bathymetric changes between the 2025 and 2013 surveys overlaid on BA Chart 0323 (Black arrows represent sandwave migration since 2013 survey)

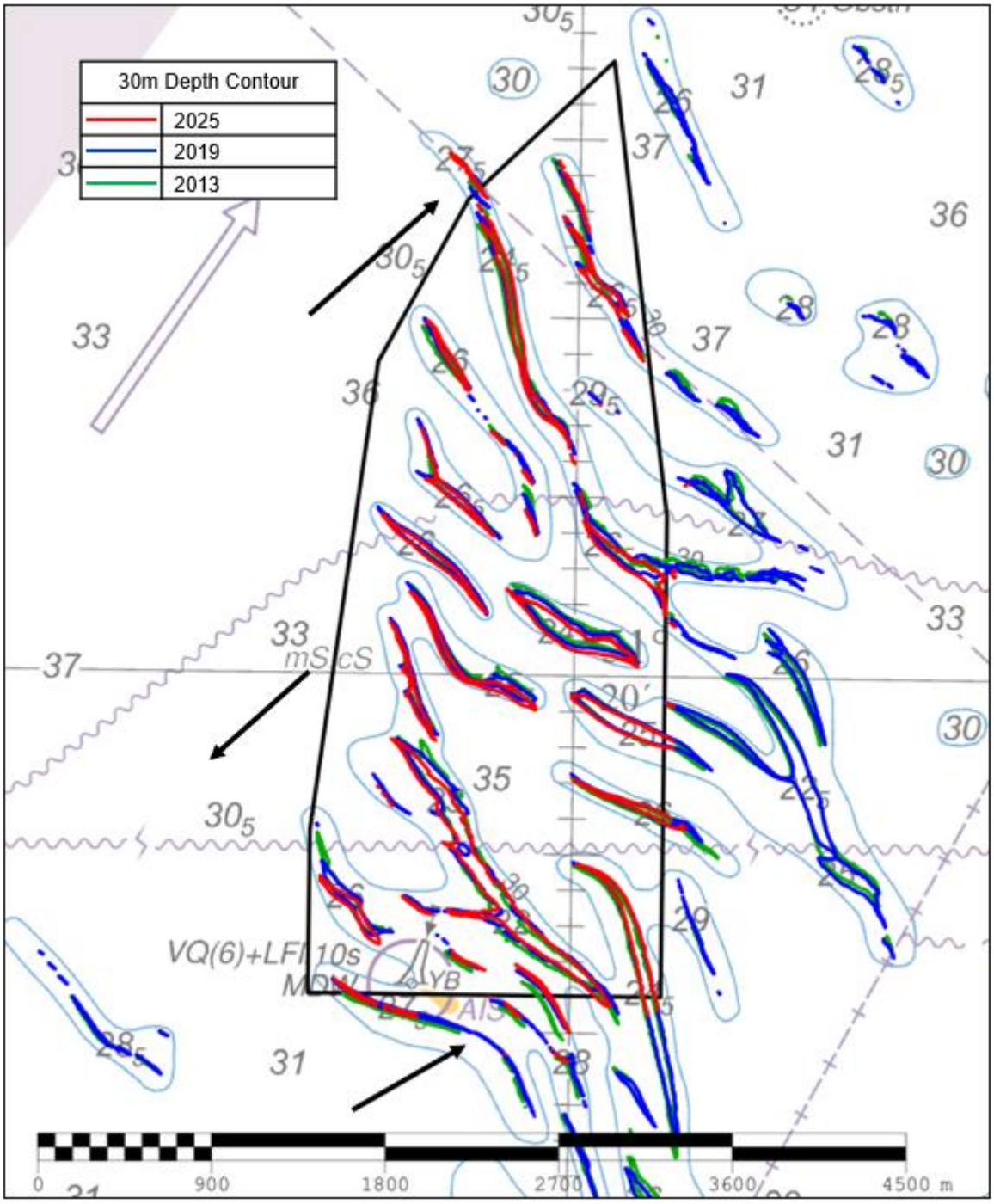

Figure 6: Contour plot showing changes in the 30m contours between 2025 (red) and 2019 (blue) and 2013 (green). Black arrow represents feature migration.

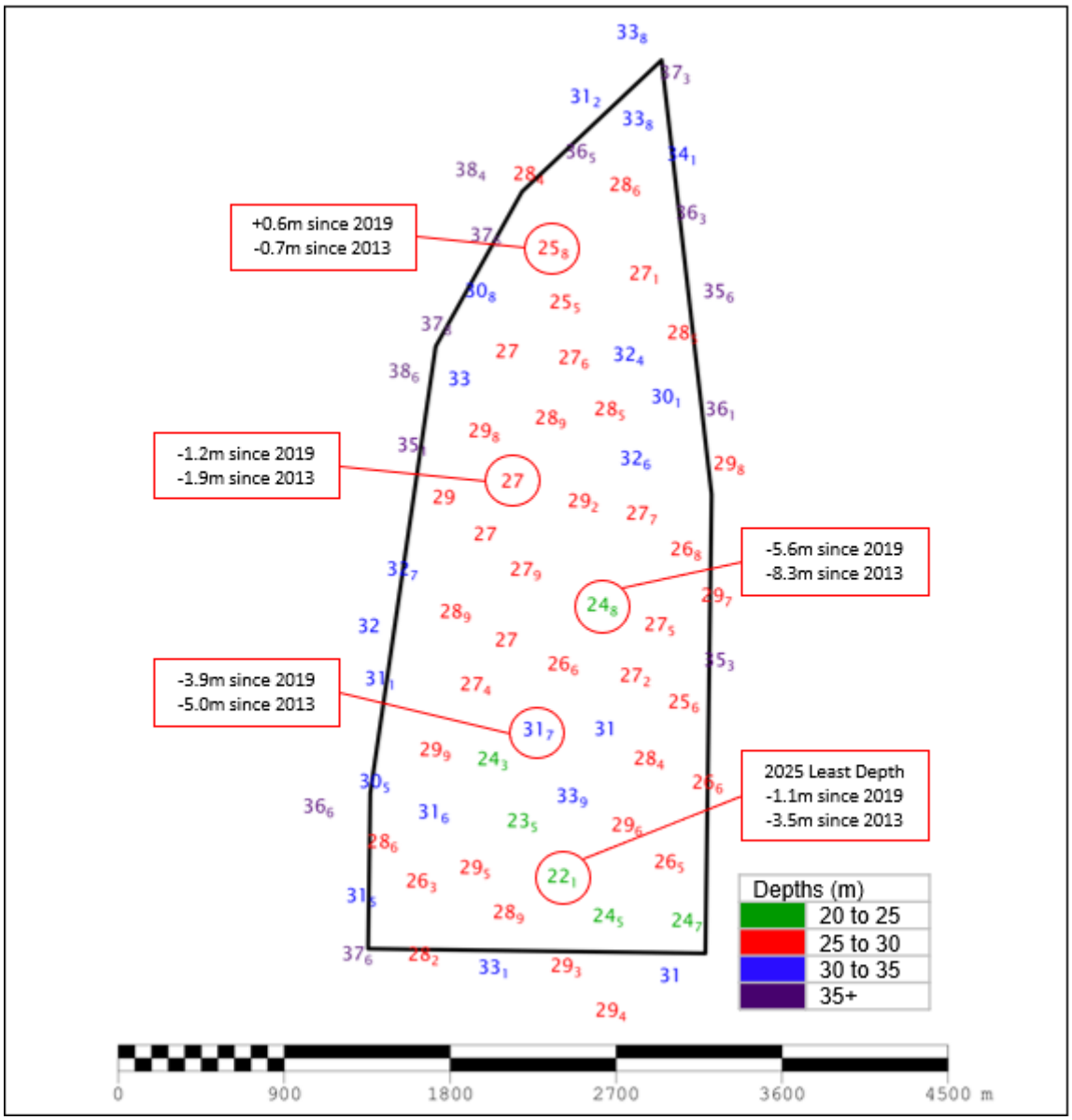

Figure 7: Colour banded depth plot from the 2025 survey with selected depth changes since the 2019 and 2013 surveys. Positive values (+) represent deepening. Negative values (-) represent shoaling.

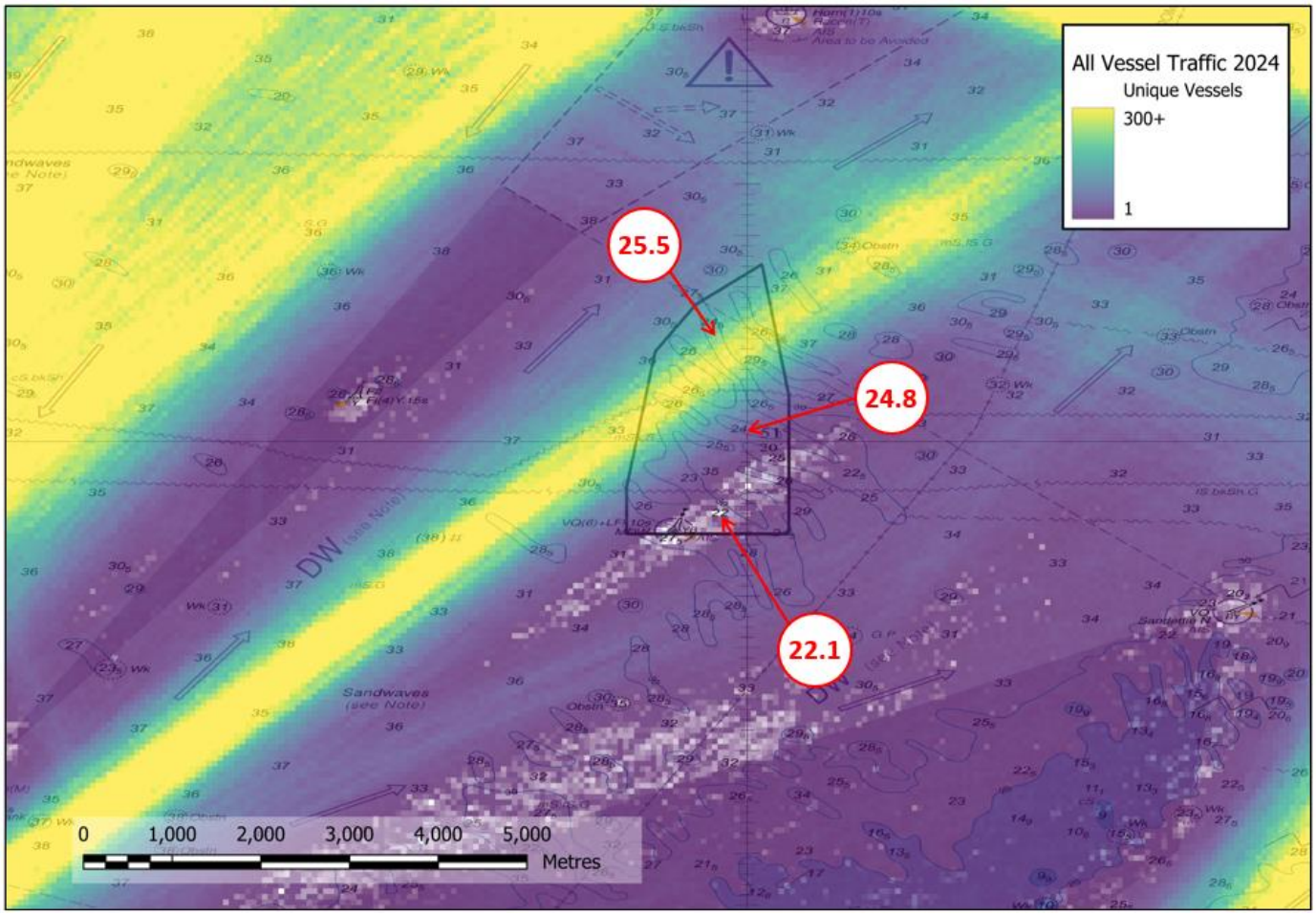

Figure 8: AIS heatmap at 100m resolution grid size. Density unit is unique vessels within the grid square within 2024. DWR B2 area in black and significant depth soundings (m) overlaid.

6. RECOMMENDATIONS FOR FUTURE SURVEYS

Survey Interval

6.1 Given the location of the area in relation to the DWR and the draught of vessels navigating the area, in addition to the continued migration and shoaling of the sand waves, DWR B2 should remain on the 12-year full and 6-year focused survey interval in the RRS programme.

Survey Area

6.2 The survey area limits are adequate at present. However, as it is recommended that the neighbouring area DWR R is extended to the northeast, consideration should be given to matching the extension in DWR B2 to fully capture the northern sandwaves. See Figure 9.

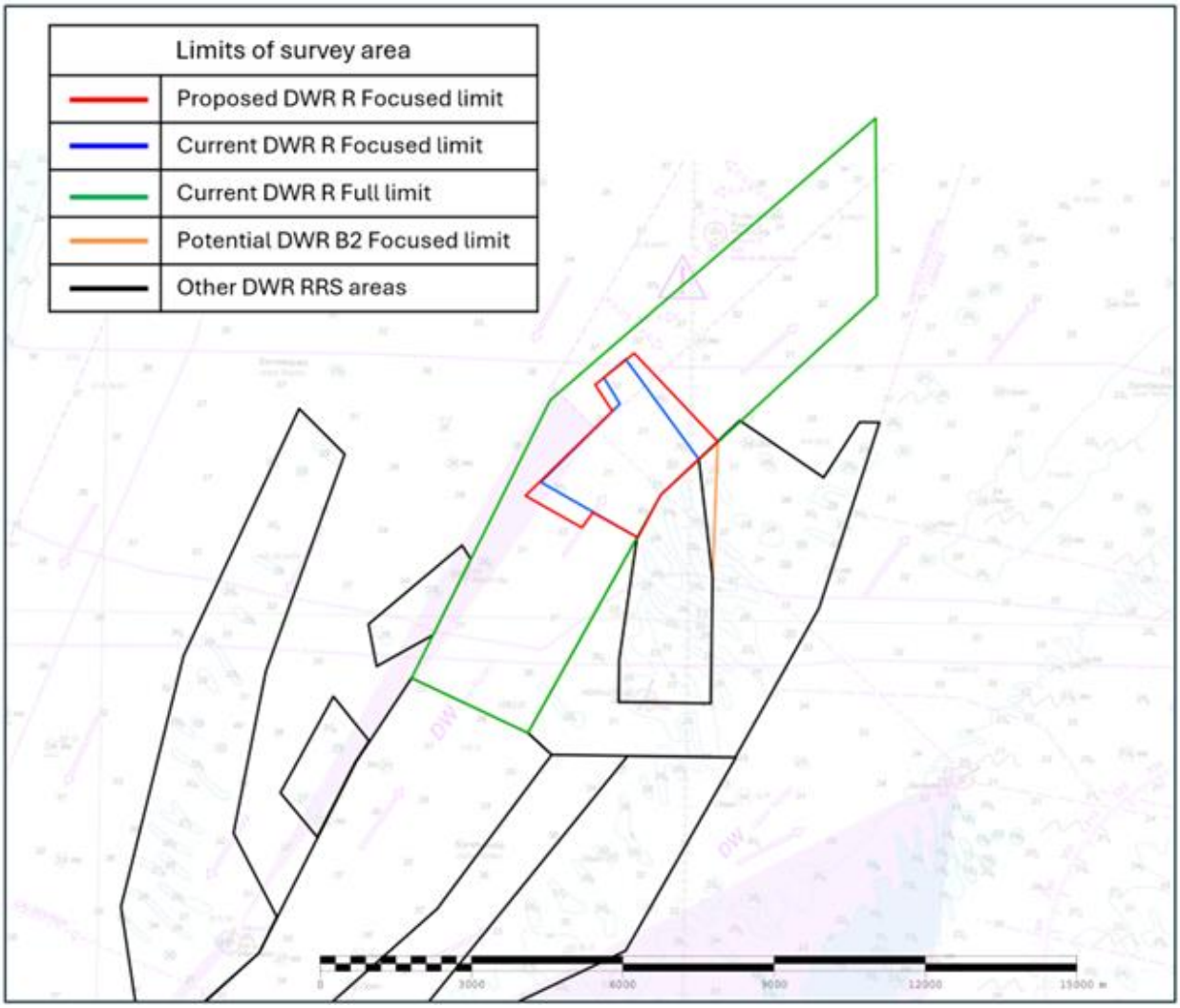

Figure 9: Potential changes to survey limits of area DWR B2 and DWR R, with surrounding DWR RRS areas in black

The coordinates of the suggested adjusted survey area limits for the 6 yearly focused DWR B2 are shown below:

Current Limits:
DWR B2 (focused) total area: 6.82 km^2

Proposed New Limits:
DWR B2 (focused) total area: 7.31km^2

	Latitude	Longitude
1	51.355500N	001.991670E
2	51.365176N	002.007717E
3	51.340810N	002.006750E
4	51.318400N	002.006750E
5	51.318400N	001.980500E
6	51.326000N	001.980500E
7	51.347877N	001.985111E