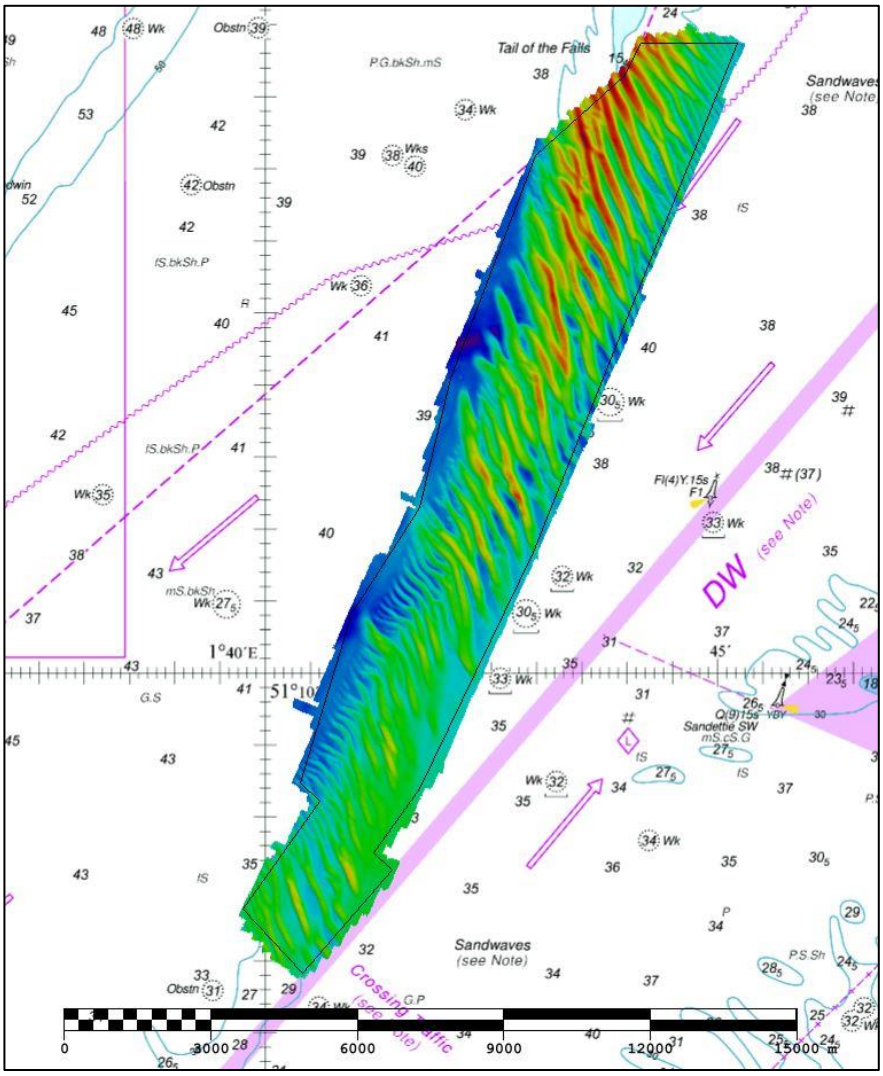
UK Hydrographic Office

Maritime & Coastguard Agency

DOVER STRAIT
TAIL OF THE FALLS (DWR C1)
2020 ASSESSMENT

An assessment of the 2020 hydrographic survey of the area DWR C1 Tail of the Falls: 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 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.

No analysis of shipping traffic has been included within this report due to no AIS data being supplied by MCA.

All depths are to Chart Datum, defined using the UKHO VORF Model

TAIL OF THE FALLS (DWR C1) - 2020

1. SUMMARY

Changes Detected

1.1 There is a continuation of sandwave migration travelling north-east at a rate of approximately 30-90m since 2019.

1.2 The least depth has deepened by 0.1m and has moved in relation to the general trend of the seabed 75m northeast.

1.3 Sandwave migration continues, however the overall survey area has remained relatively consistent with the general depth of water deepening by approximately by 1.4m since the 2019 survey.

1.4 The main Tail of the Falls bank feature has maintained its shape since last year even with continuing sandwave migration.

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 annual resurveys.

Recommendations

1.6 As the area is fairly stable, it is recommended that the annual survey interval be changed to three years.

1.7 No changes to the survey area needed at present. But survey area should be closely monitored due to continuing sandwave migration.

2. LOCATION

2.1 Survey interval at time of resurvey: Annual

2.2 Area Covered: 23.09 km^2

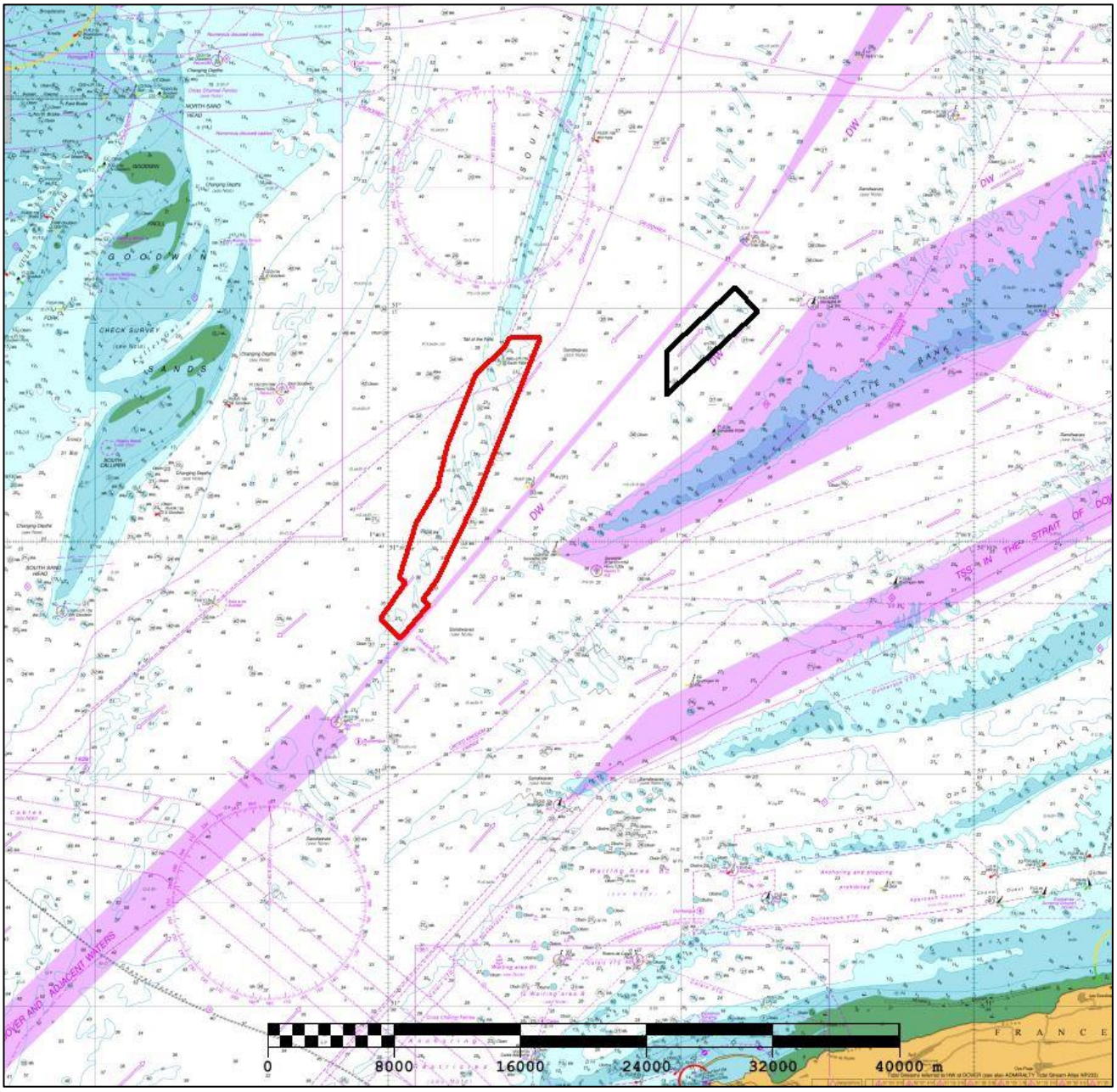

Figure 1: 2020 Dover Strait Routine Resurvey areas overlaid on BA Chart 0323 with DWR C1 in red

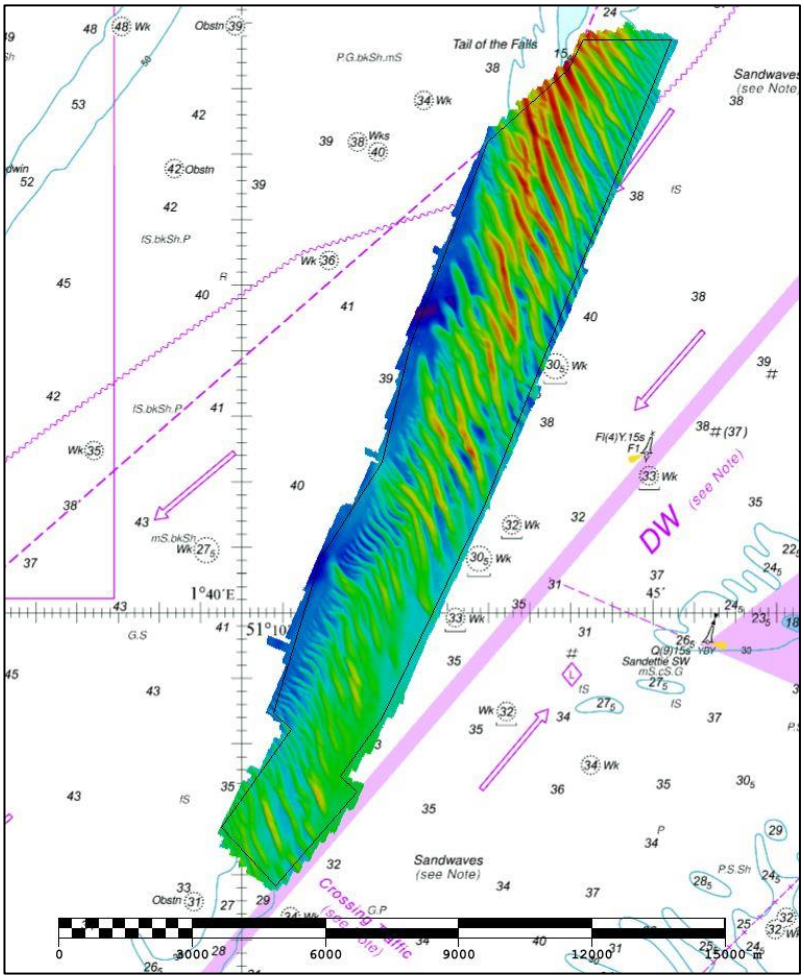

Figure 2: 2020 DWR C1 survey data overlaid on BA Chart 0323

3. REFERENCE SURVEY DETAIL

3.1 Previously, the area of C1 included two other areas; C2 and C3. These were all combined to form a new C1 in 2019. The previous surveys conducted from the 2019 Routine Resurvey Programme were conducted between July and October 2019 as part of HI1649, HI1650 and HI1651.

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 the Admiralty Marine Data Portal.

4. NEW SURVEY DETAIL

4.1 The latest survey from the 2020 Routine Resurvey Programme was conducted in August 2020 as part of HI1694.

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 the Admiralty Marine Data Portal.

5. DESCRIPTION OF RECENT BATHYMETRIC CHANGE

5.1 Significant depths from the 2020 survey can be seen in Figure 3, with the least depth of 19.1m located in the northern section of the survey. This is 0.1m deeper than the least depth from the 2019 C3 survey (19m) and is 75m further north-east. The controlling depth in the 2019 C2 survey was 27.8m, and in the 2020 survey the new controlling depth is 27.0m and is 850m north-west. For the C1 survey the controlling depth in the 2019 survey was 24.6m and in 2020 is 22.5m and is 1200m south of the 2019 controlling depth.

5.2 Figure 8 shows the 2019 survey areas overlaid on the 2020 survey. In the C1 area the seabed has deepened by 1.4m since 2019 on average. In the previous C2 area the seabed has deepened by 1.3m on average. In the previous C3 area, the seabed has deepened by 1.7m on average.

5.3 The difference surfaces in Figures 4 and 5 shows sandwave migration across much of the survey area travelling north-east and continuing the trend seen in the 2019 reports. This can also be seen clearly in Figure 6 with the contour plot showing an approximate 30-90m rate of movement, since the previous year, in sandwaves moving north-east.

5.4 Although sand waves are continuing to migrate, the main Tail of the Falls bank has maintained its shape, and overall depth of water in the survey has stayed relatively consistent.

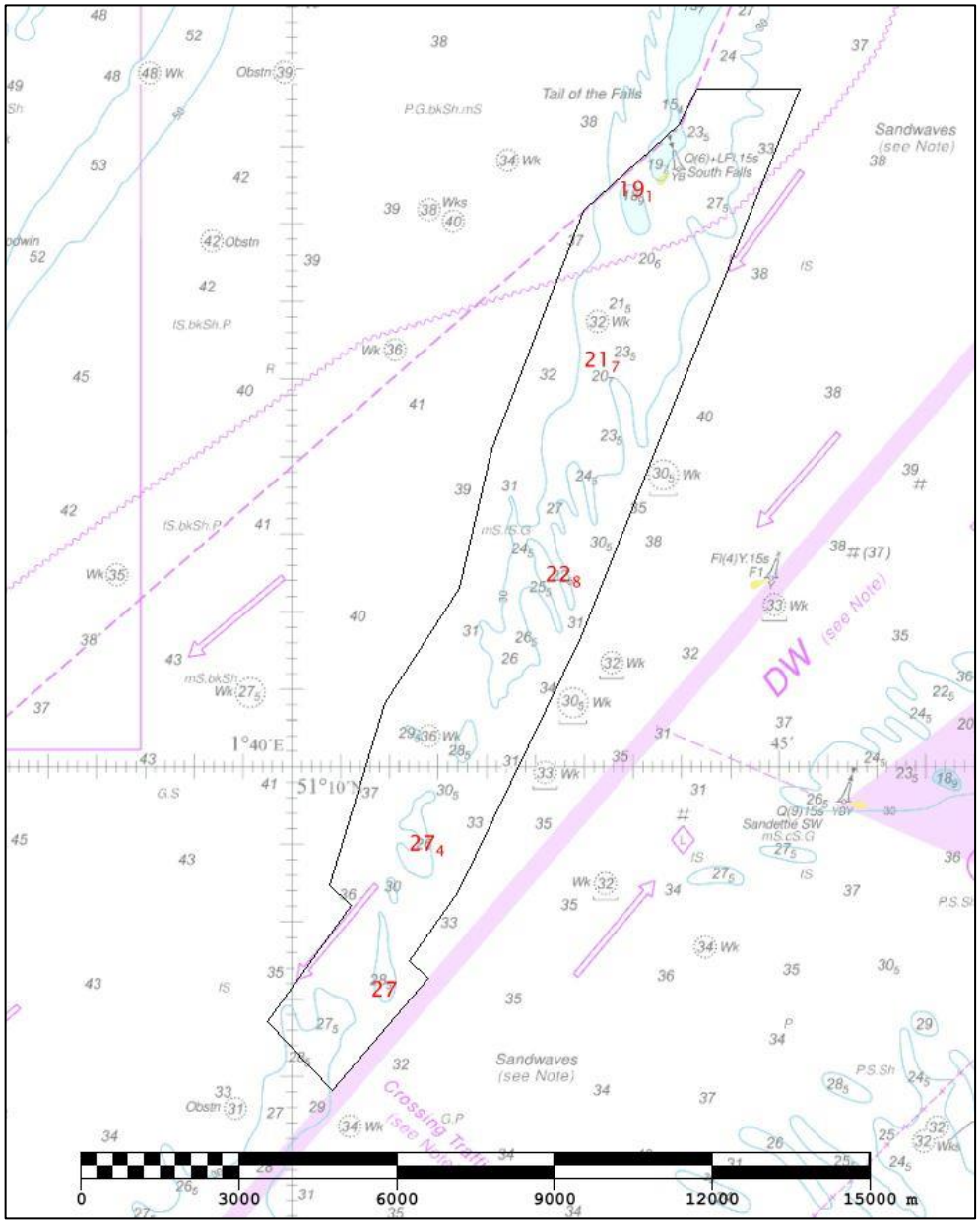

Figure 3: Significant depths from 2020 survey overlaid on BA chart 0323

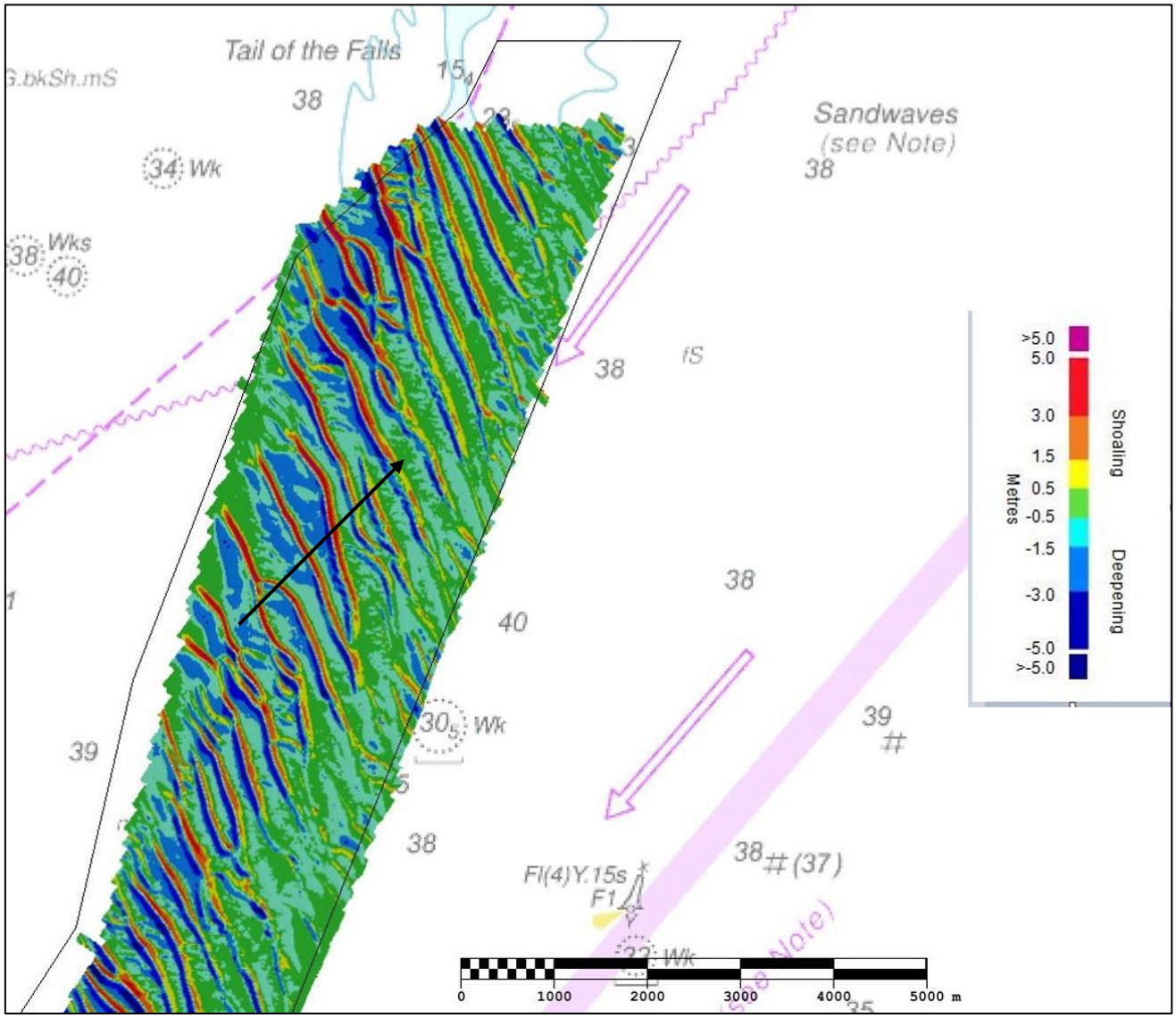

Figure 4: Difference surface showing bathymetric changes of the northern section between the 2019 and 2020 surveys overlaid on BA Chart 0323

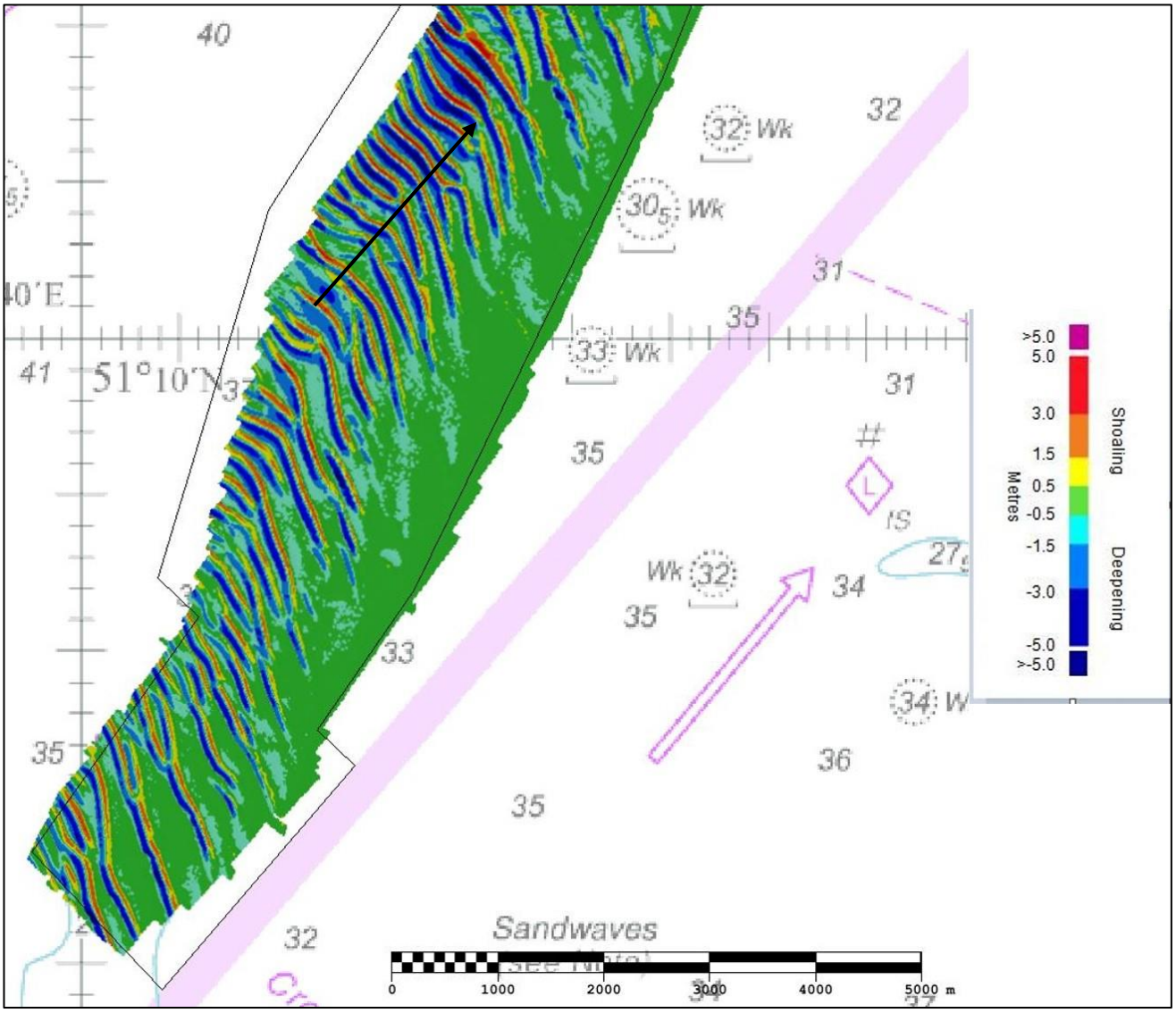

Figure 5: Difference surface showing bathymetric changes of the southern section between the 2019 and 2020 surveys overlaid on BA Chart 0323

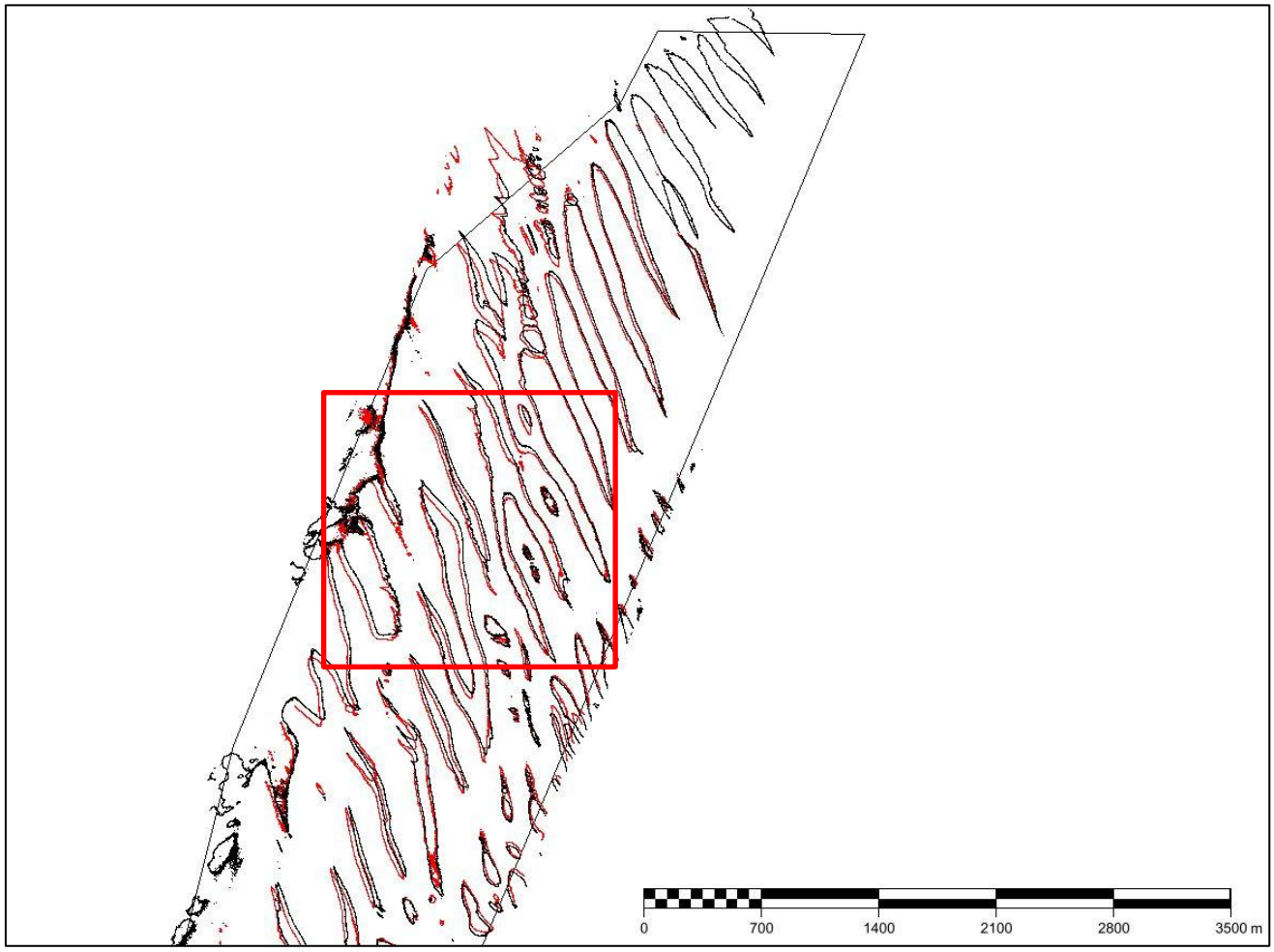

Figure 6: Image of contours between the 2019 and 2020 surveys in northern section of survey area. 2019 contours are depicted in red, whilst contours from the 2020 survey are depicted in black. Zoomed in image of area in red shown in figure 7.

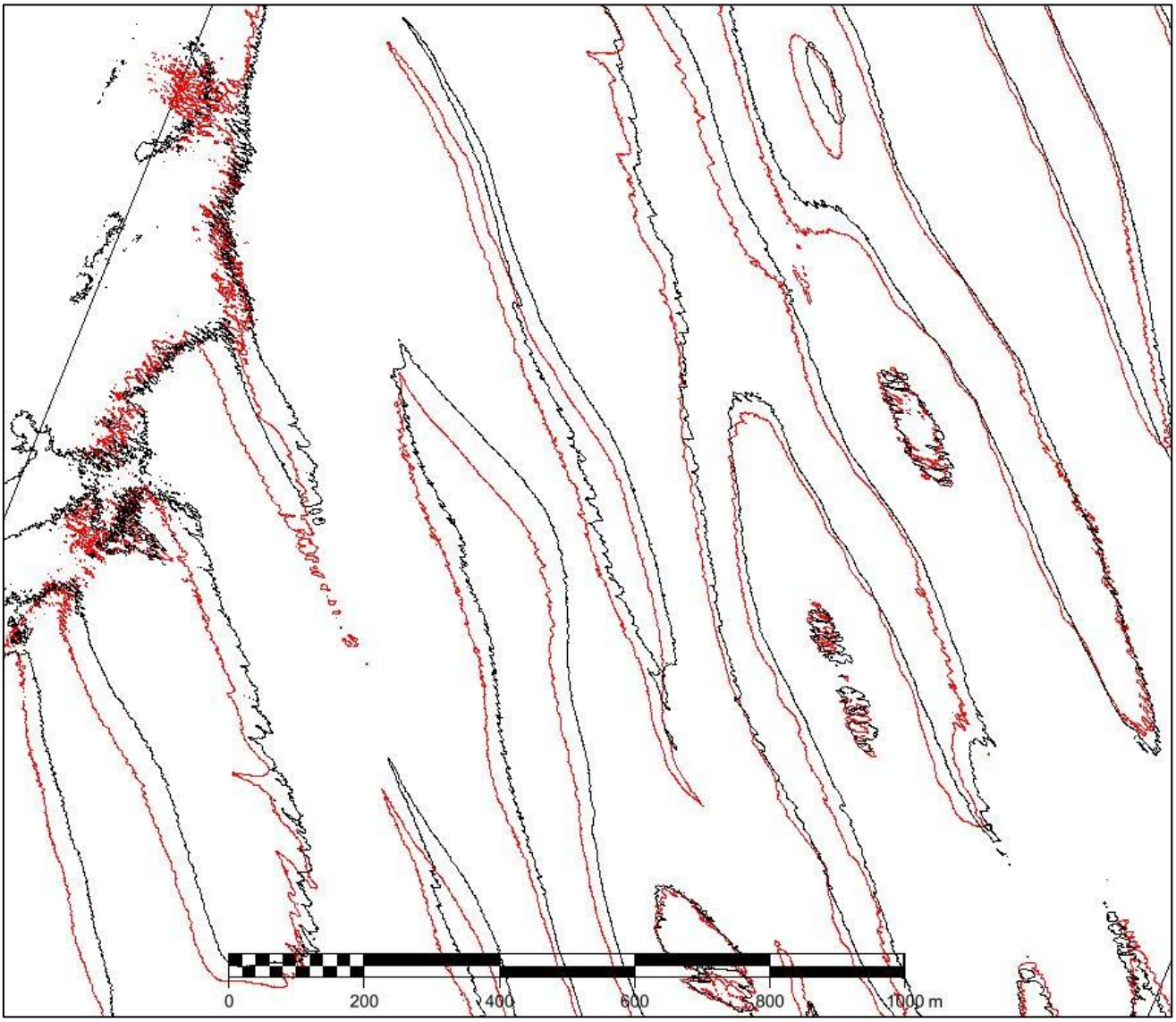

Figure 7: Image of contours between the 2019 and 2020 surveys. 2019 contours are depicted in red, whilst contours from the 2020 survey are depicted in black.

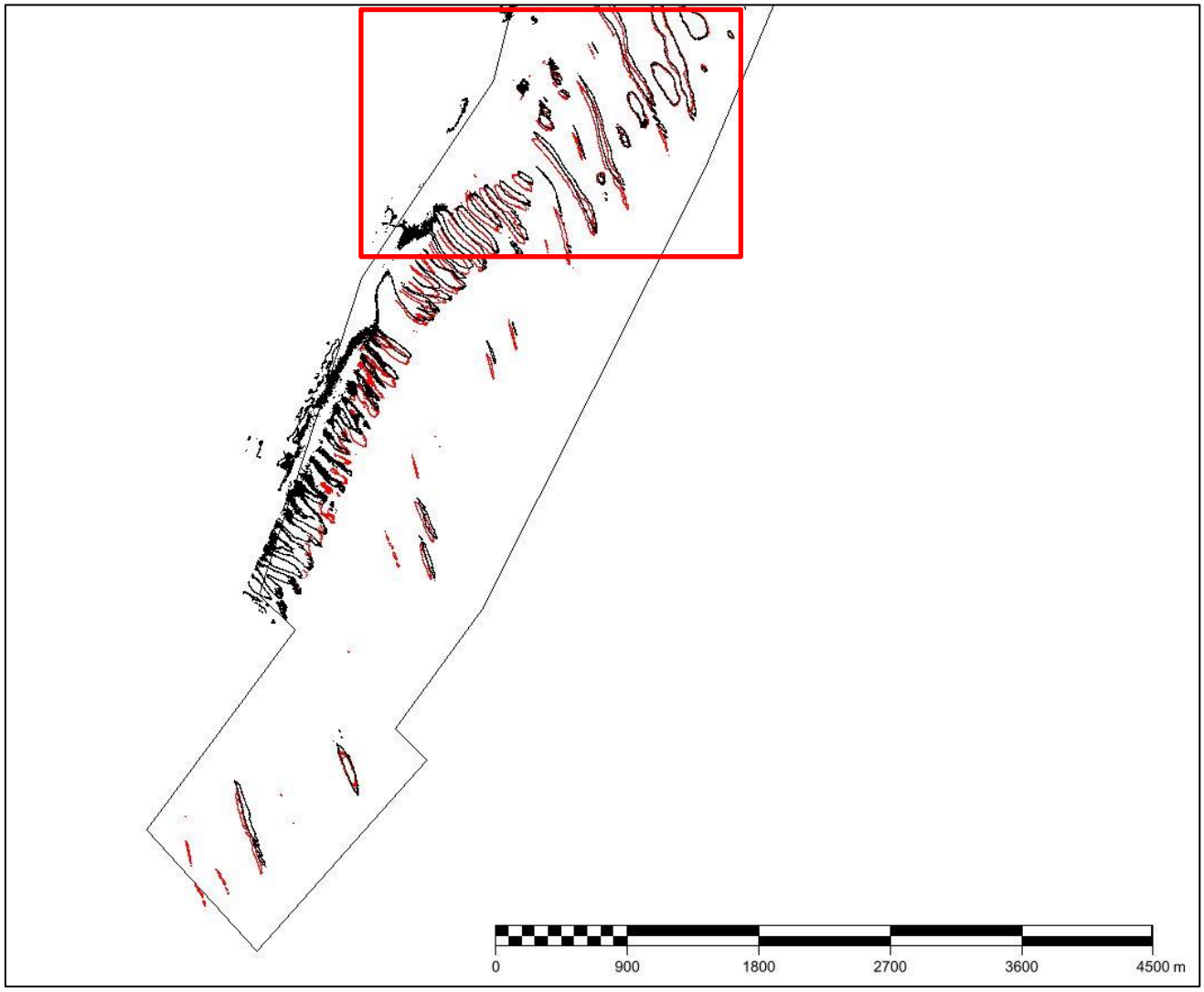

Figure 8: Image of contours between the 2019 and 2020 surveys in northern section of survey area. 2019 contours are depicted in red, whilst contours from the 2020 survey are depicted in black. Zoomed in image of area in red shown in figure 9

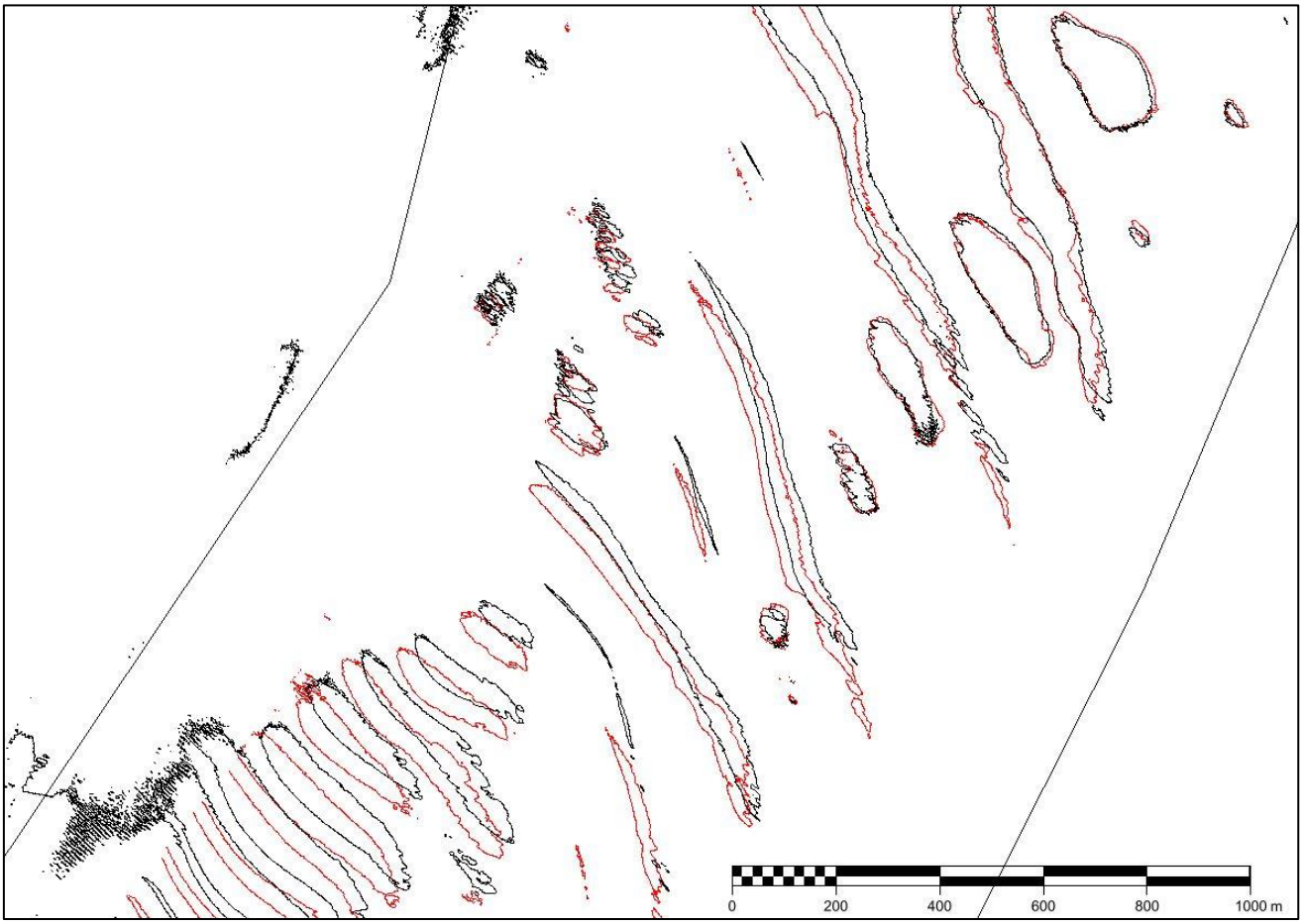

Figure 9: Image of contours between the 2019 and 2020 surveys. 2019 contours are depicted in red, whilst contours from the 2020 survey are depicted in black.

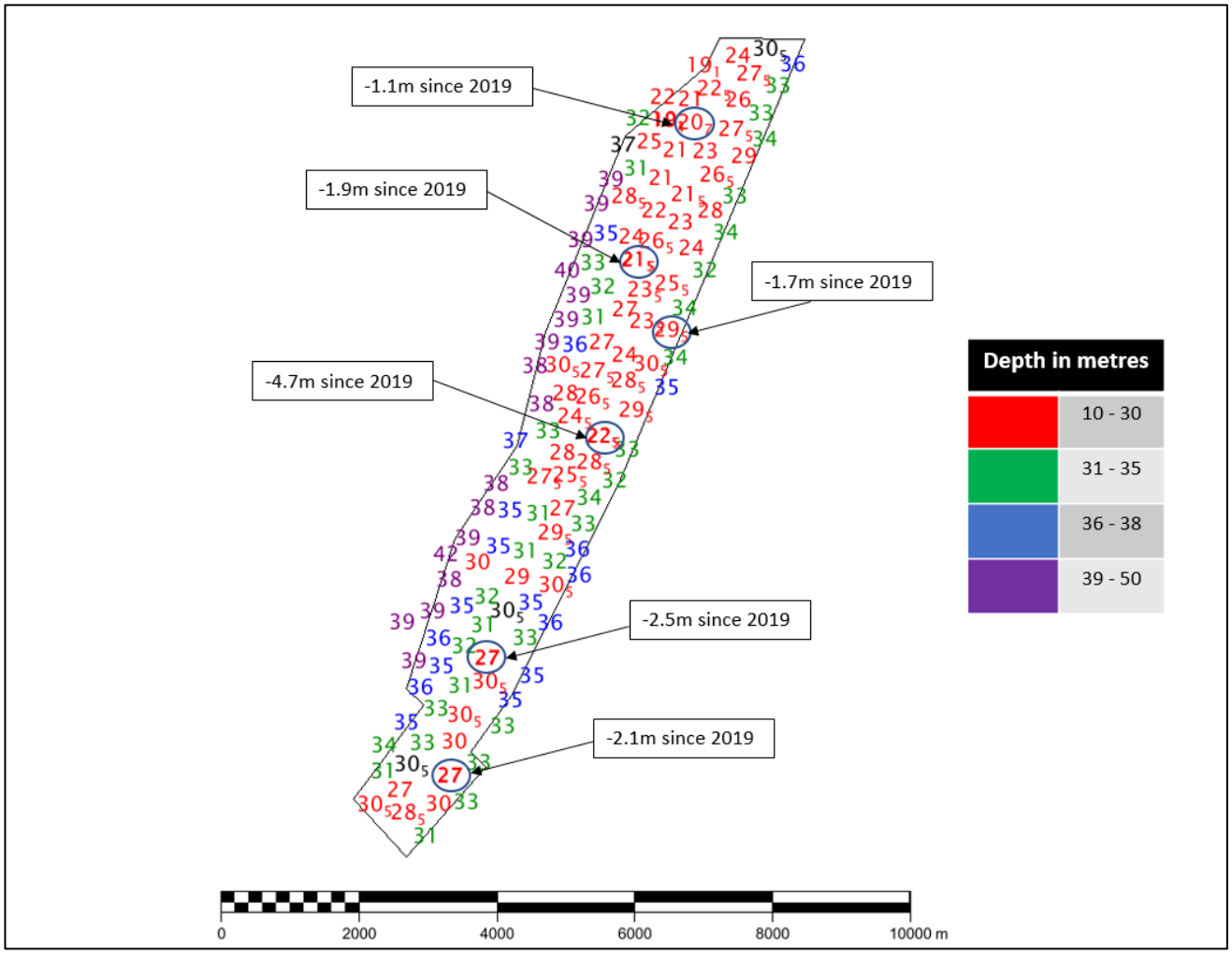

Figure 10: Colour banded depth plot from the 2020 survey with selected depth changes since the 2019 survey. Positive values (+) represent deepening. Negative values (-) represent shoaling.

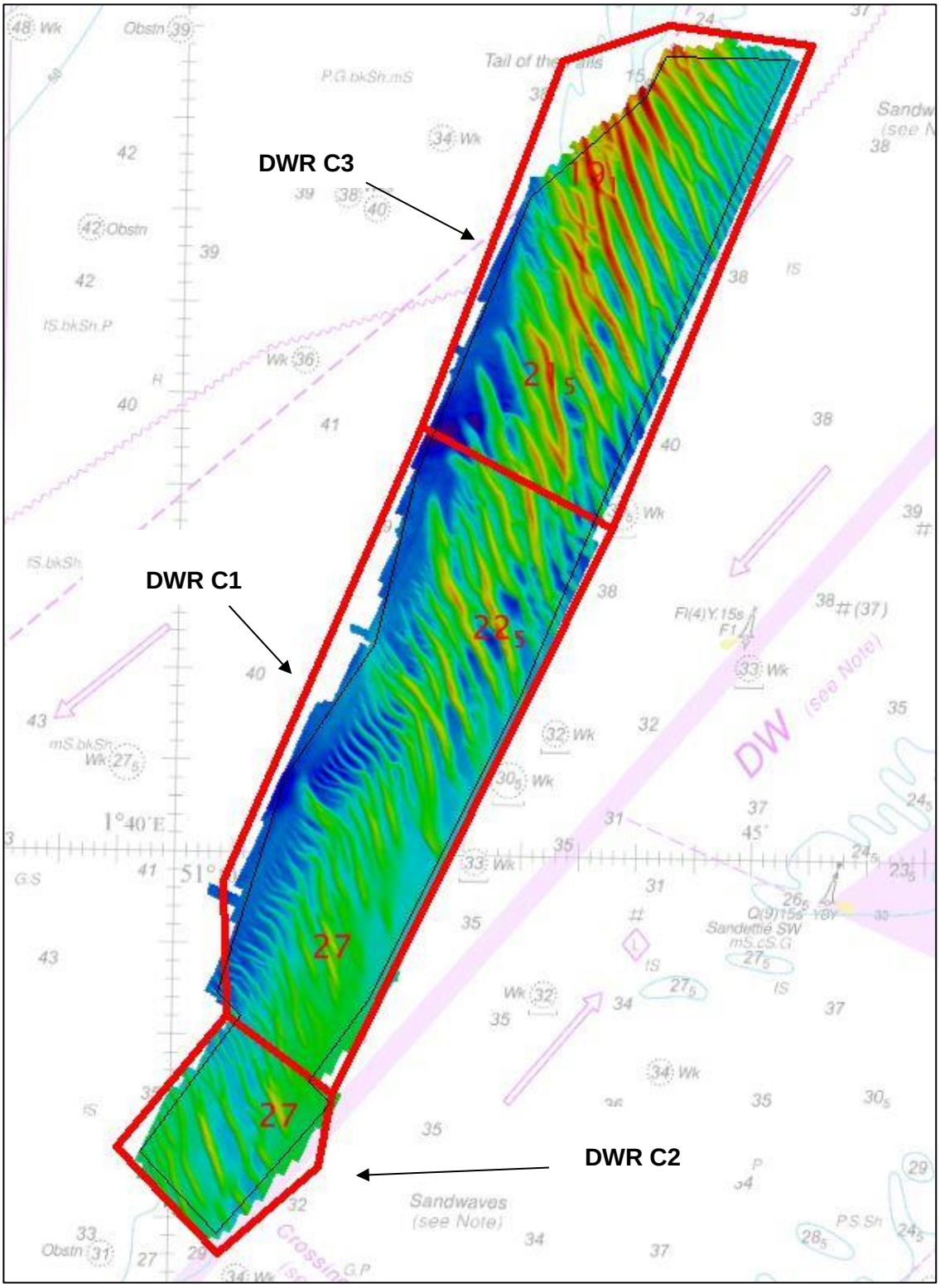

Figure 11: Survey sectioned into the original survey areas.

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 of sandwaves, DWR C1 should remain in the

programme. However, as the area is stable, it is recommended that the annual survey interval be changed to three years.

Survey Area

6.2 The survey area limits are adequate at present but should be closely monitored due to continued sandwave migration.