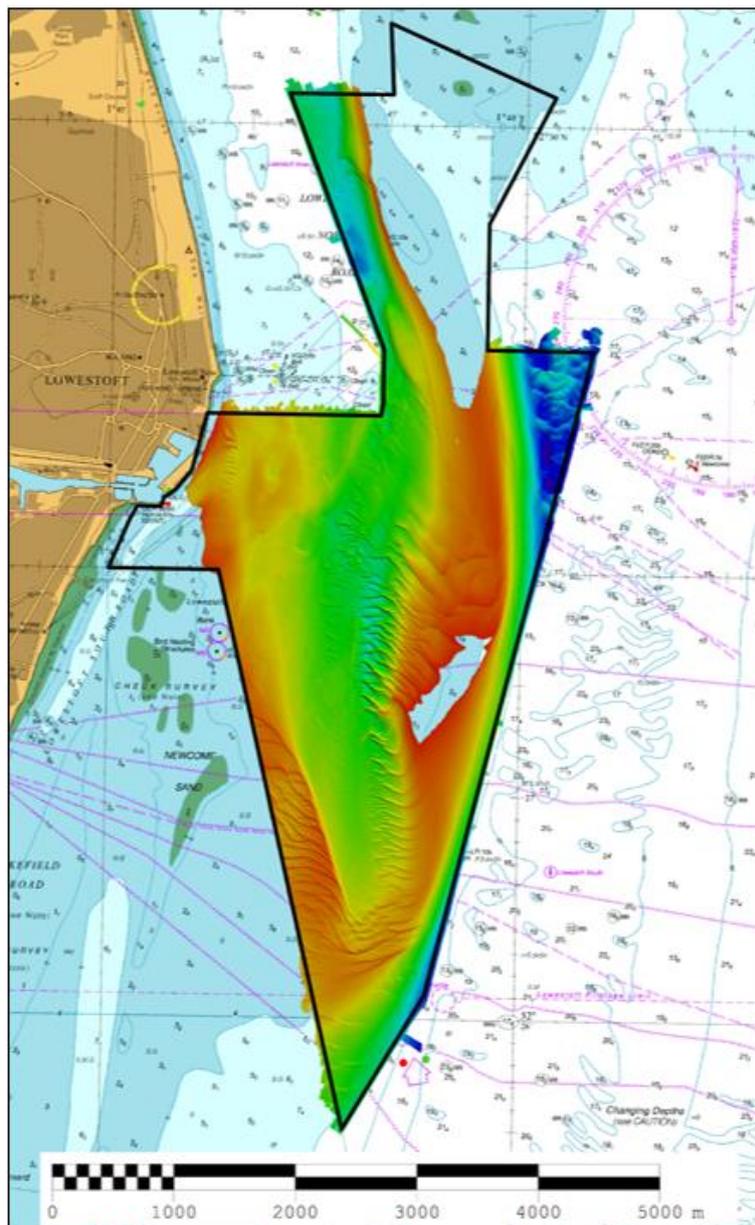




UK Hydrographic  
Office

## EAST ANGLIA APPROACHES TO LOWESTOFT (EA10) 2025 ASSESSMENT

An assessment of the 2025 hydrographic survey of the area EA10: 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.

## **APPROACHES TO LOWESTOFT, 2025**

### **1. SUMMARY**

#### **Changes Detected**

- 1.1 Newcome Sand continues its eastward migration into Stanford Channel, with the 5m contour moving approximately 180m east since 2022.
- 1.2 The least depth of Newcome Sand (in the area of surveyed sandwave migration) is 1.9m, which represents a shoaling of 4.8m along the western edge of Stanford Channel in that location.
- 1.3 Northwest section of Lowestoft Bank is migrating north-westerly into Lowestoft Approach, with the 5m contour moving approximately 45m north-west since 2022.
- 1.4 Holm Sand continues its westward migration into Lowestoft North Road, with the 5m contour moving approximately 40m west since 2024.
- 1.5 The southern section of Holm Sand continues an eastward migration, with the 5m contour moving approximately 160m east and the 10m contour moving approximately 70m east since 2022.
- 1.6 The least depth in the entrance to Stanford Channel between the S Holm and Newcome Sand buoys is 3.8m in 2025. This is the same as in 2024, but is now located 45m further South. A second sand wave with least depth 4.0m has also migrated into the channel entrance.

#### **Reasons for Continuing to Resurvey the Area**

- 1.7 Depths in the area remain mobile and potentially hazardous to vessels navigating the area, therefore continued monitoring through 3-year full surveys and 1-year focused surveys are required.

#### **Recommendations**

- 1.8 EA10 full survey should continue a 3-yearly interval due to continued sandwave migration causing changing depths in the area. The focused survey areas (EA10A, EA10B & EA10C) should also continue at an annual interval.
- 1.9 EA10 full survey should be extended east to better capture the 10m contour. The south region should be removed up to the Lowestoft Pilotage Limit due to minimal sandwave movement and low volume of vessel traffic.

### **2. LOCATION**

- 2.1 Survey interval at time of resurvey: 3 years full area, 1-year focused areas.
- 2.2 Area Covered: 12.97 km<sup>2</sup>

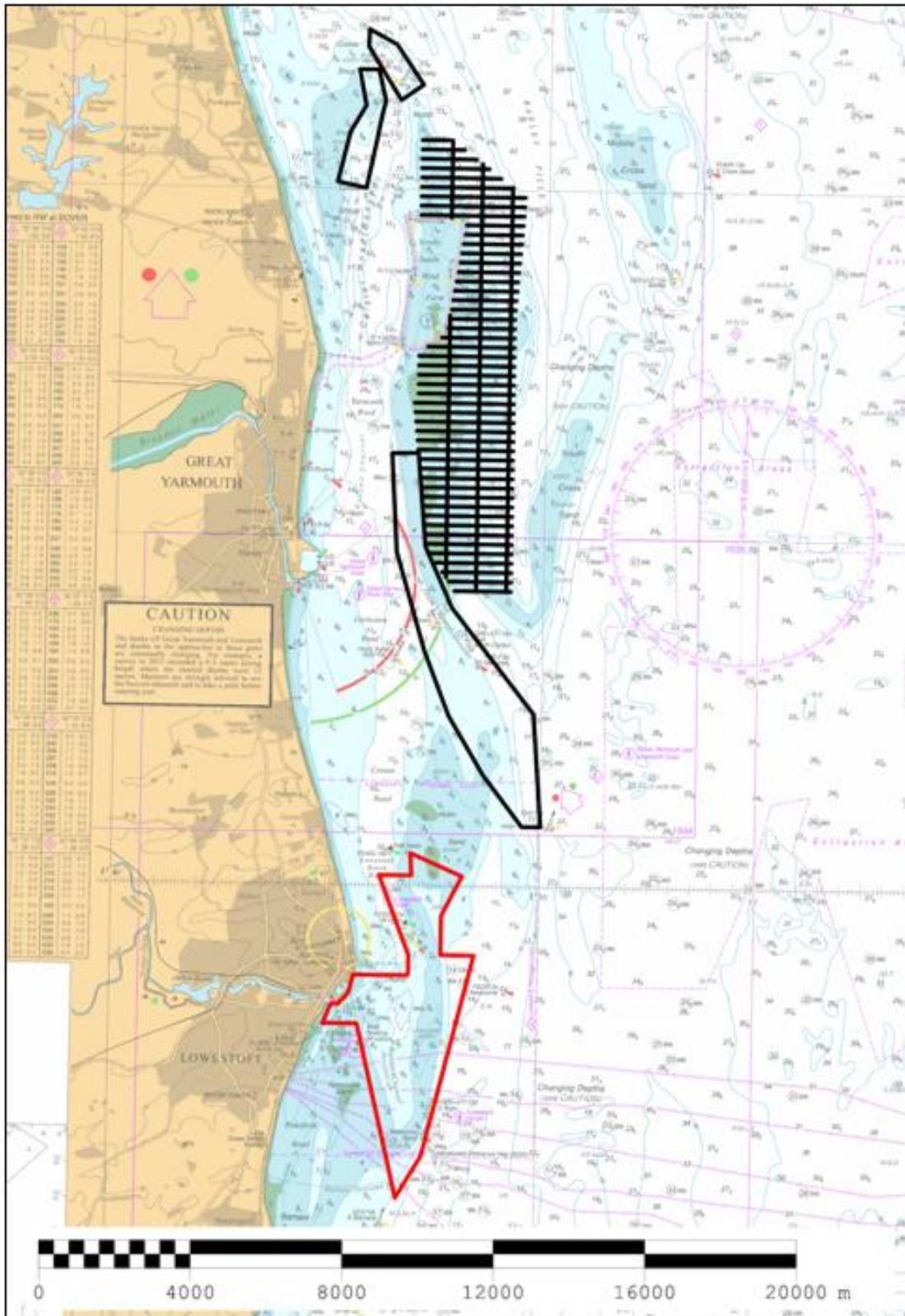


Figure 1: 2025 East Anglia Routine Resurvey areas overlaid on BA Chart 1543-0 with area EA10 in red

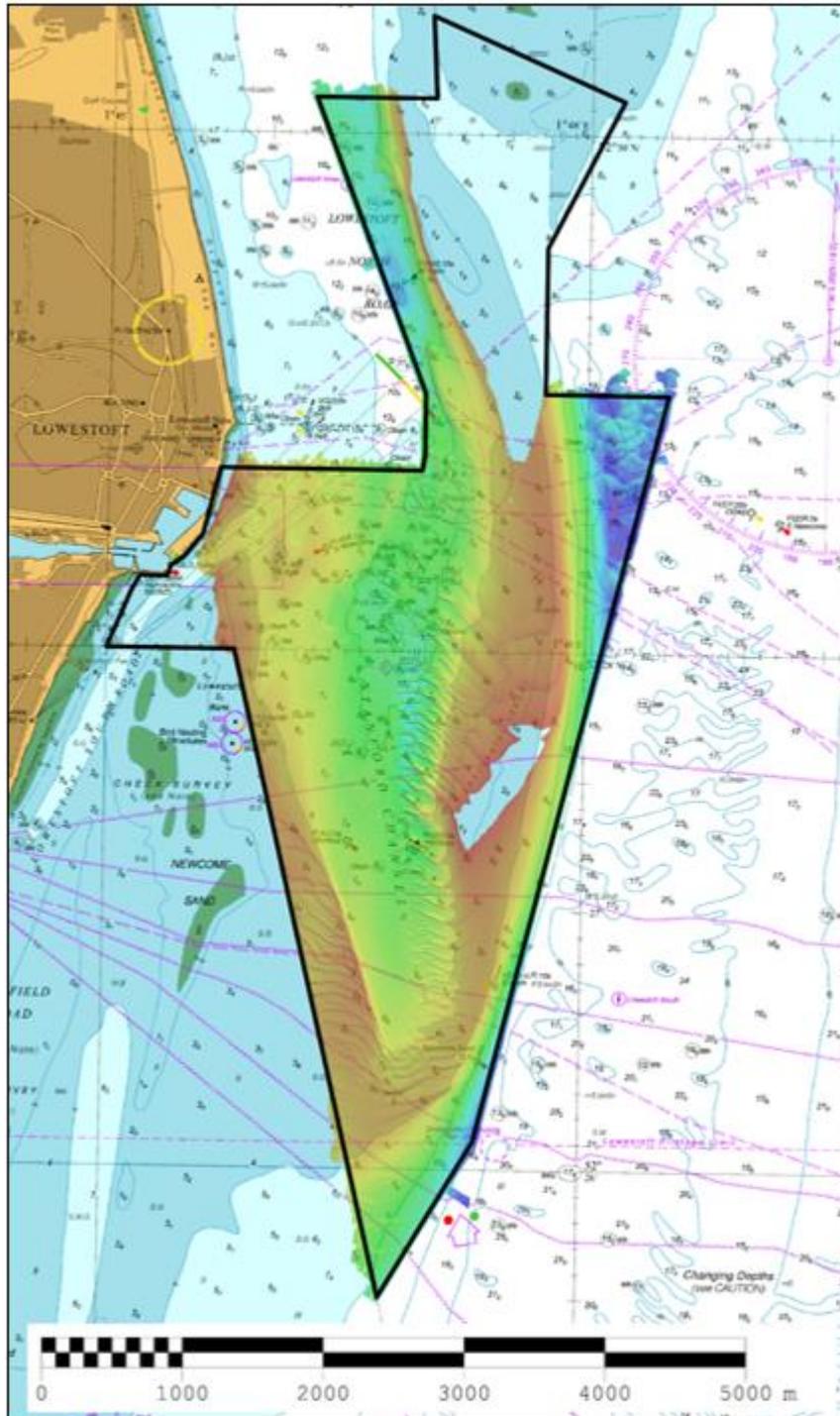


Figure 2: 2025 survey data overlaid on BA Chart 1535-0

### 3. REFERENCE SURVEY DETAIL

- 3.1 The previous focused survey of EA10A, EA10B and EA10C was conducted as part of the 2024 Routine Resurvey Programme, surveyed in August 2024 as part of HI1858. The previous full survey was conducted as part of the 2022 Routine Resurvey Programme, surveyed in October 2022 as part of HI1762.
- 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 HI1895, surveyed between July 2025 and September 2025 as part of the 2025 Routine Resurvey Programme. The survey did not completely cover the HI area, where the data collected covered approximately 80% of the area but missed the western most region and the northeast region.
- 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 controlling depth within Lowestoft Approach has shoaled in location by 0.9m since 2024 and is now 5m, however the controlling depth for 2024 was shoaler, at 4.6m located approximately 270m southwest of the 2025 depth. There is also a significant depth of 2.1m, located on the Lowestoft Bank approximately 430m southwest of the 2025 controlling depth (See Figure 9), which has shoaled by 0.7m since 2022.
- 5.2 Figure 3 shows a depth of 2.1m within Holm Sand, located approximately 210m northwest of the West Holm Buoy. The depth is 1.7m shoaler since 2024 and 7m shoaler since 2022. Figure's 4, 5 and 7 show the migration of the sandbank moving east into Lowestoft North Road.
- 5.3 Figure 3 shows a depth of 1.9m within Newcome Sand, located approximately 970m south of the Stanford buoy. The depth is 4.8m shoaler since 2022. This is due to the eastward migration of the 5m contour of Newcome Sand, as seen in Figure's 5 and 7.
- 5.4 Figure 6 shows the 2m contour in the south section of Holm Sand has migrated by approximately 300m southeast.
- 5.5 Figure 9 shows a depth of 9.6m located approximately 1km northeast of SW Holm buoy. The depth is 2.9m shoaler since 2022. Figure's 5 and 8 show the eastward sandwave migration of the south section of Holm Sand, with the 10m contour migrates east by approximately 70m since 2022.
- 5.6 Figure's 3 and 9 show the controlling depth in the entrance to Stanford Channel between the S Holm and Newcome Sand buoys is 3.8m in 2025. This is the same as in 2024 but is now located 45m further South due to sand wave migration. A second sand wave with least depth 4.0m has also migrated into the channel entrance. Depths either side of the channel entrance continue to shoal with Southerly migration of the southern tail of Holm Sand to the North and Sandwaves continuing to build as they migrate south easterly from the channel.
- 5.7 Figure's 5 and 8 show the central section of the survey area remains relatively stable at the 10m contour limit. Figure 3 shows the least depth within the 10m contour limit area at 8.3m, located on a wreck, in a highly trafficked area (see Figure 10). The depth is 0.1m deeper since 2022.

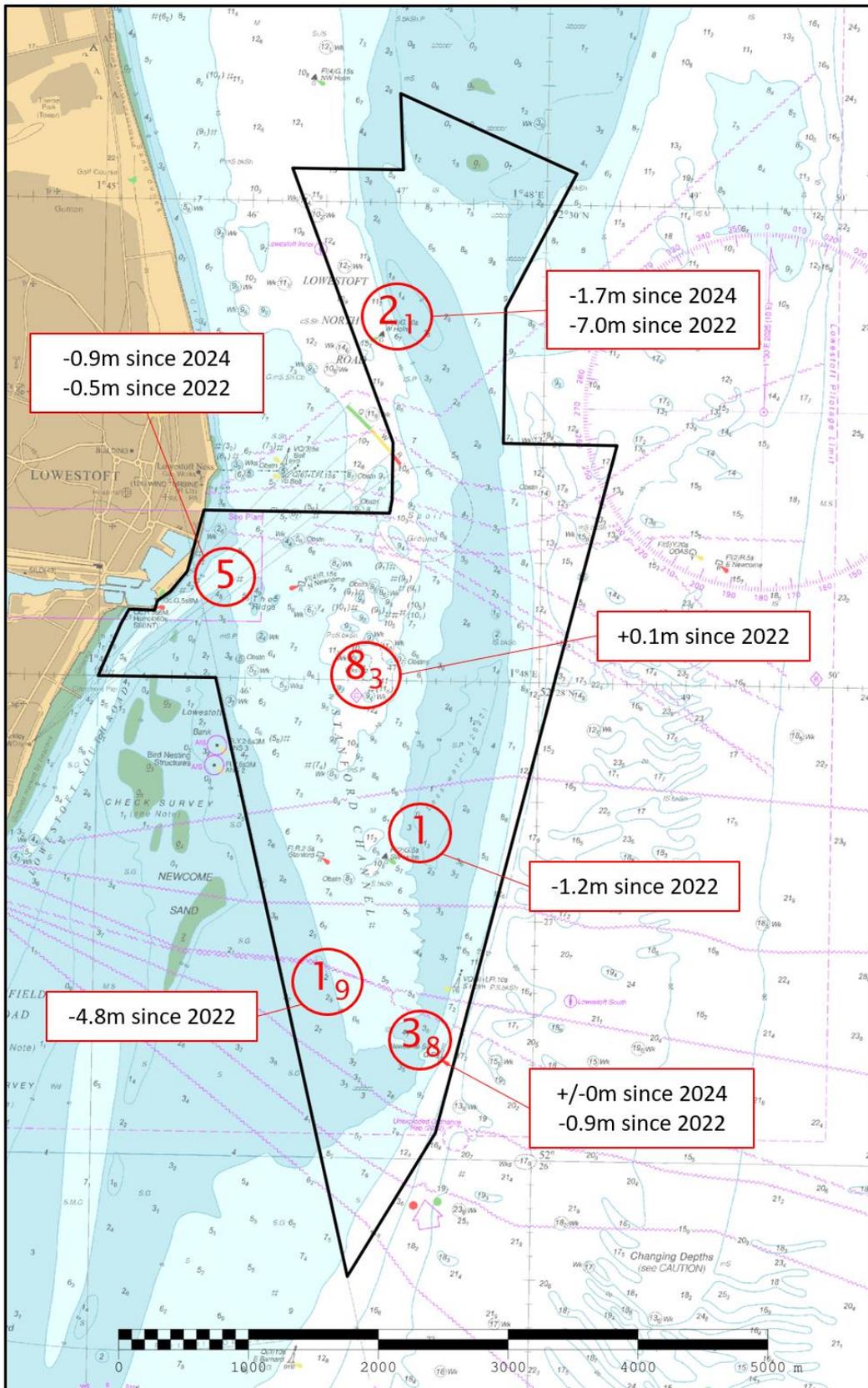


Figure 3: Significant Depth soundings highlighted, overlaid on BA Chart 1535-0

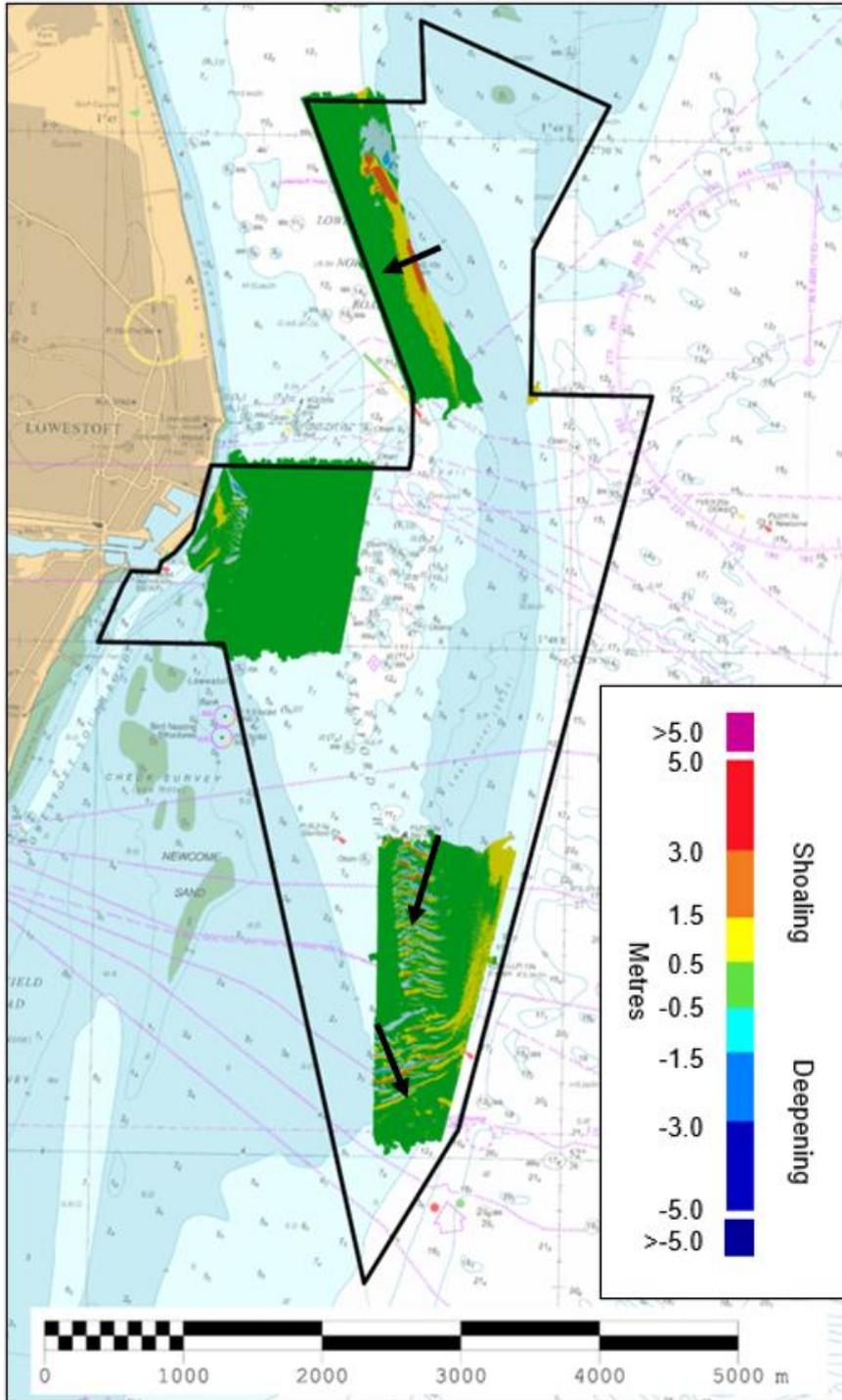


Figure 4: Difference surface showing bathymetric changes between the 2025 and 2024 surveys overlaid on BA Chart 1535-0 (Black arrows represent sandwave migration since 2024 survey)

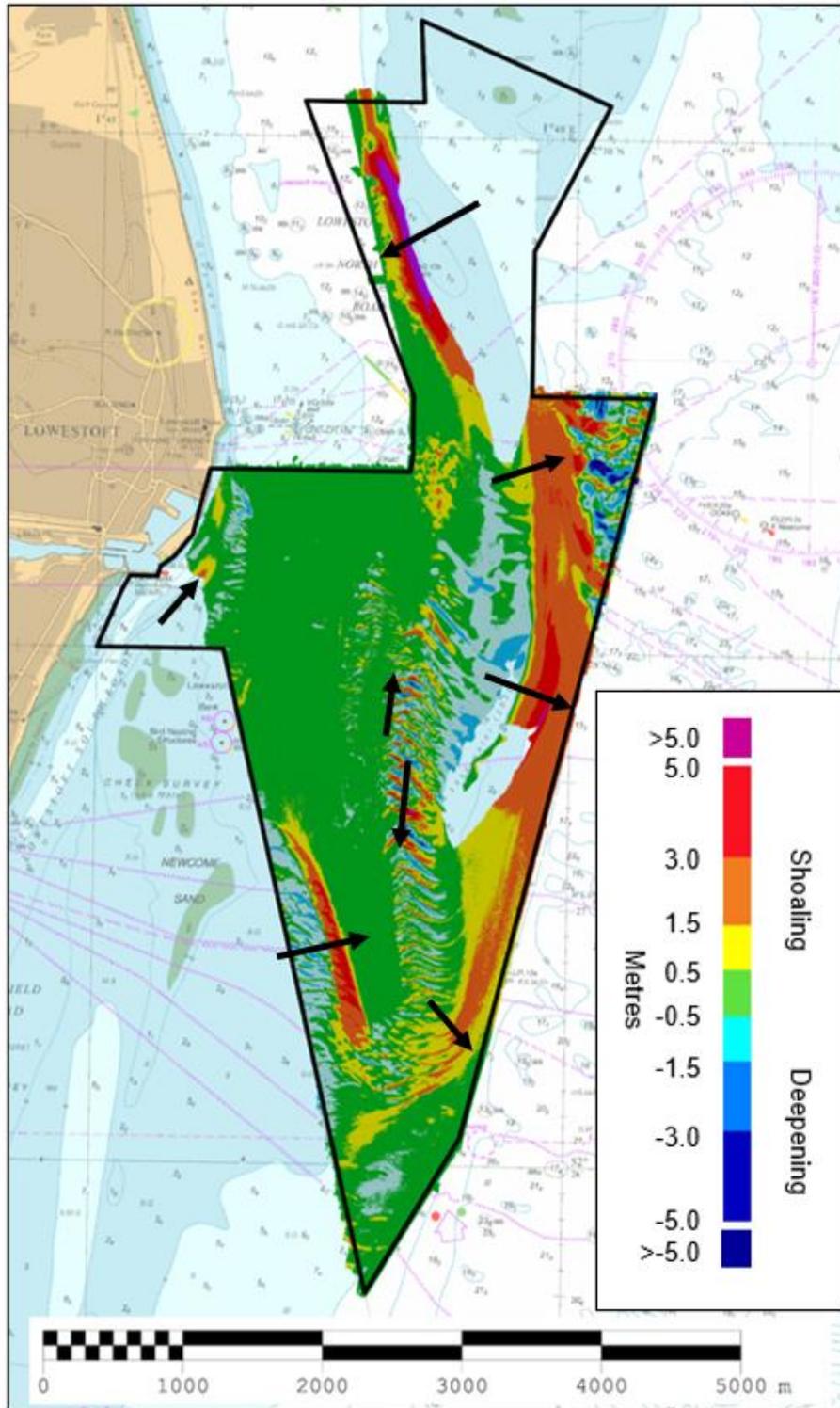


Figure 5: Difference surface showing bathymetric changes between the 2025 and 2022 surveys overlaid on BA Chart 1535-0 (Black arrows represent sandwave migration since 2022 survey)

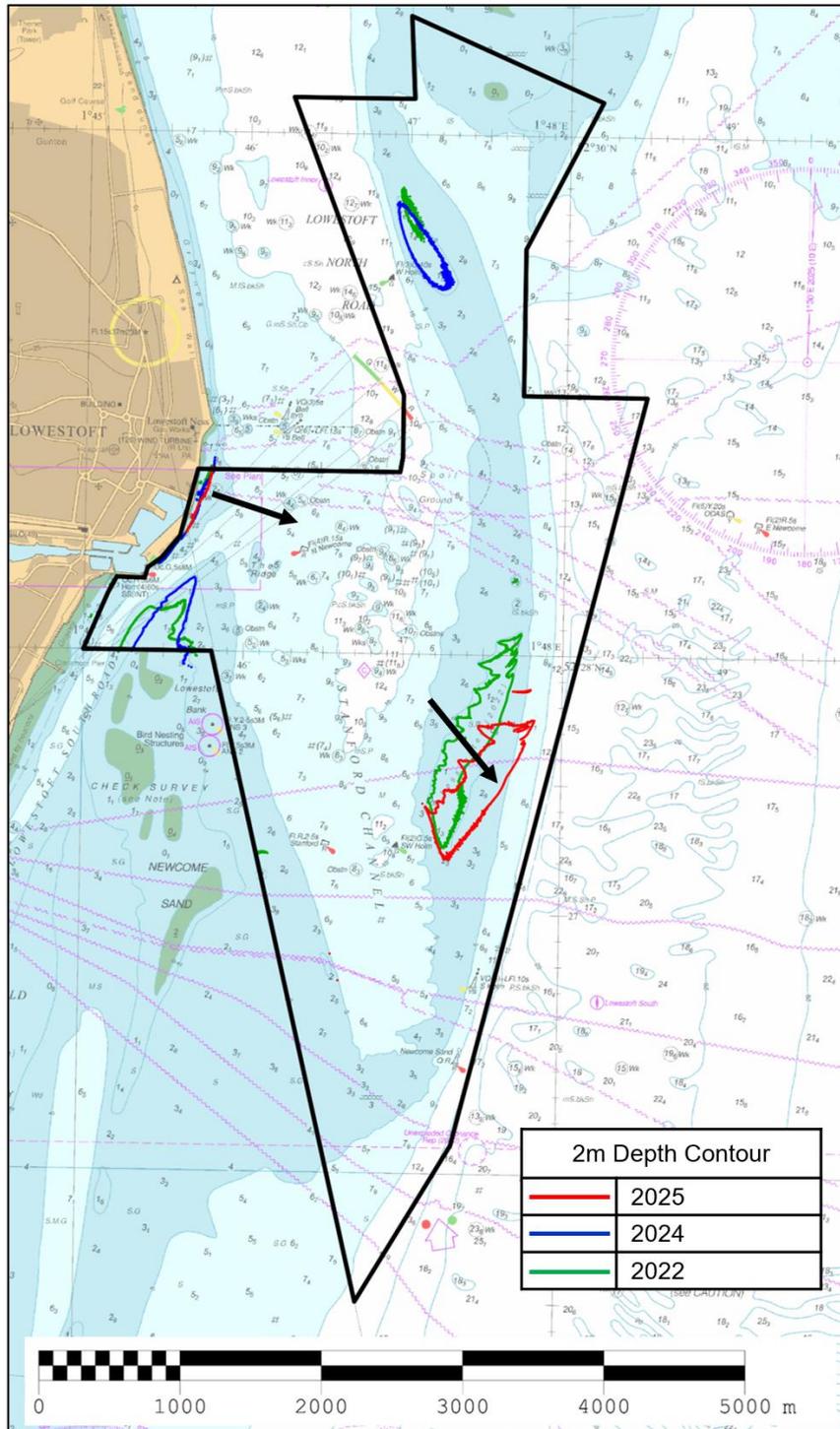


Figure 6: Contour plot showing changes in the 2m contours between 2025 (red), 2024 (blue) and 2022 (green). Black arrow represents feature migration

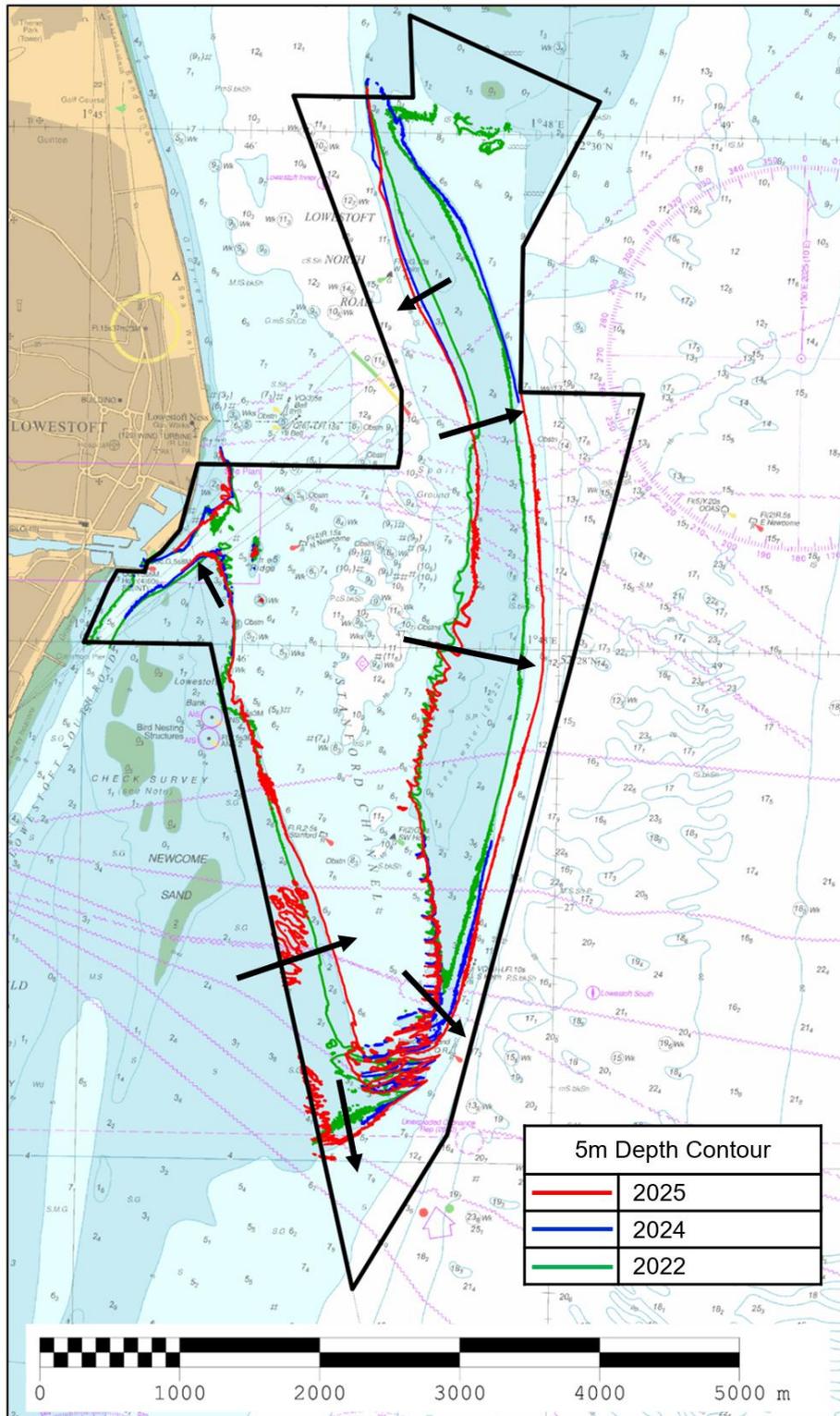


Figure 7: Contour plot showing changes in the 5m contours between 2025 (red), 2024 (blue) and 2022 (green). Black arrow represents feature migration

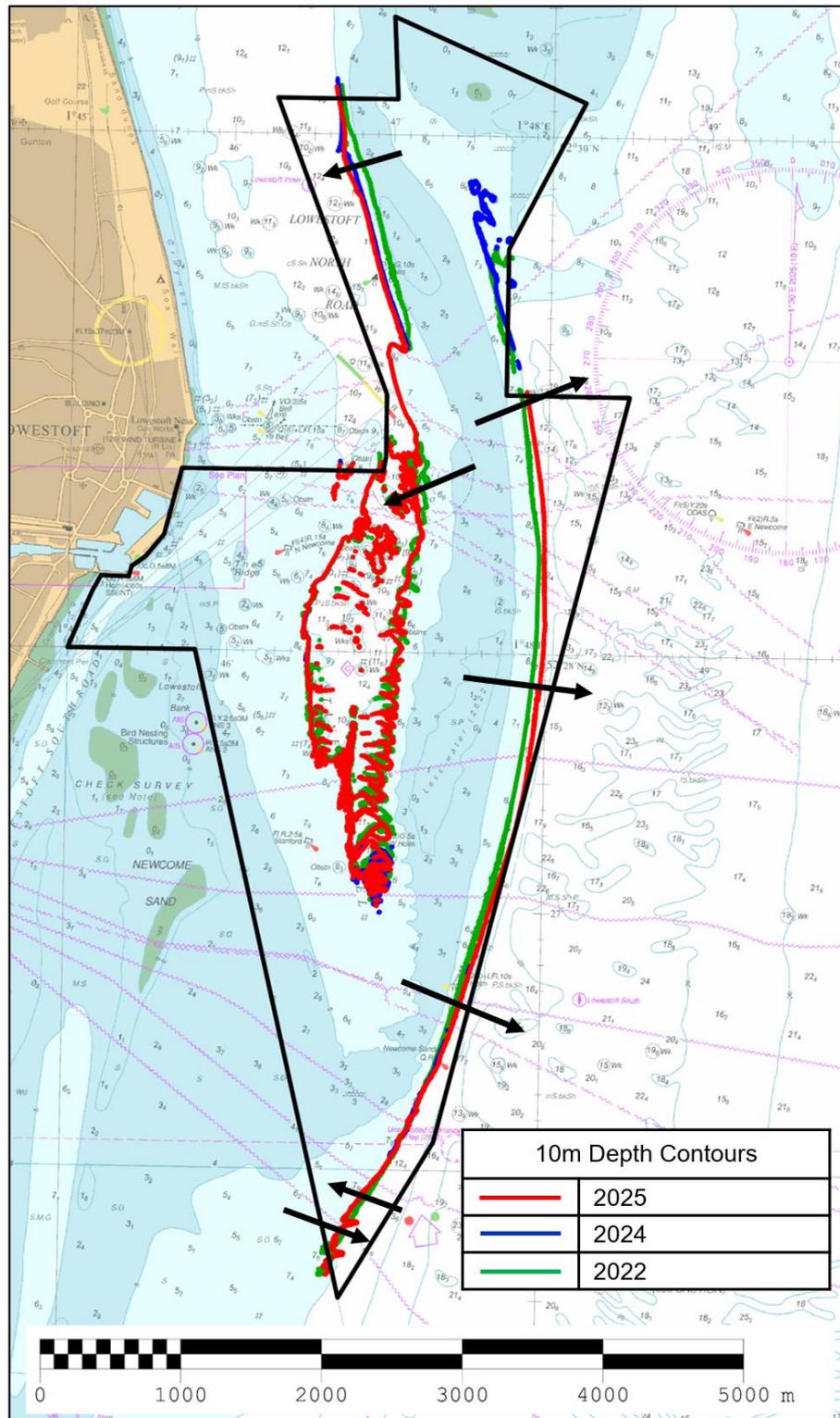


Figure 8: Contour plot showing changes in the 10m contours between 2025 (red), 2024 (blue) and 2022 (green). Black arrow represents feature migration

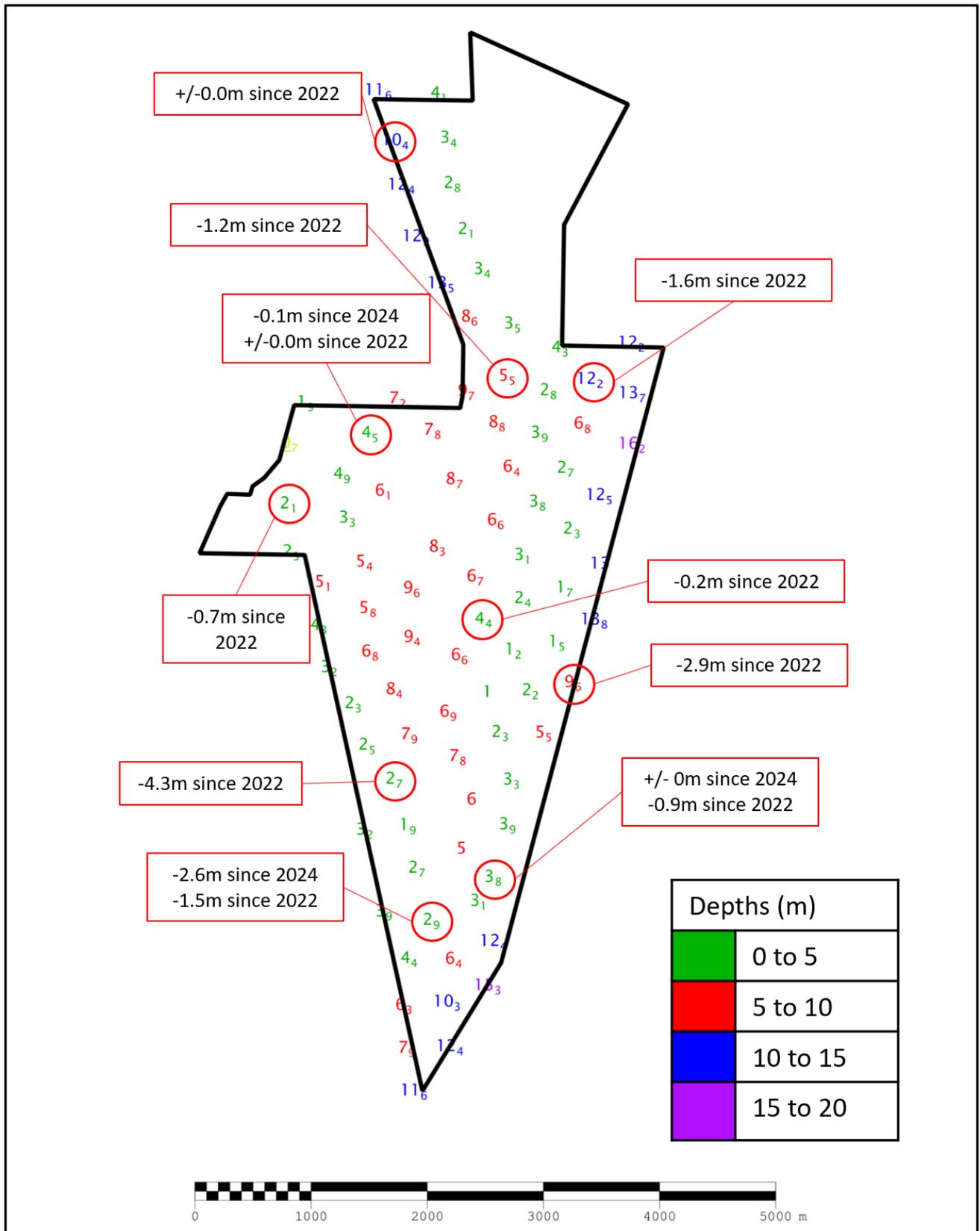


Figure 9: Colour banded depth plot from the 2025 survey with selected depth changes since the 2024 and 2022 surveys. Positive values (+) represent deepening. Negative values (-) represent shoaling

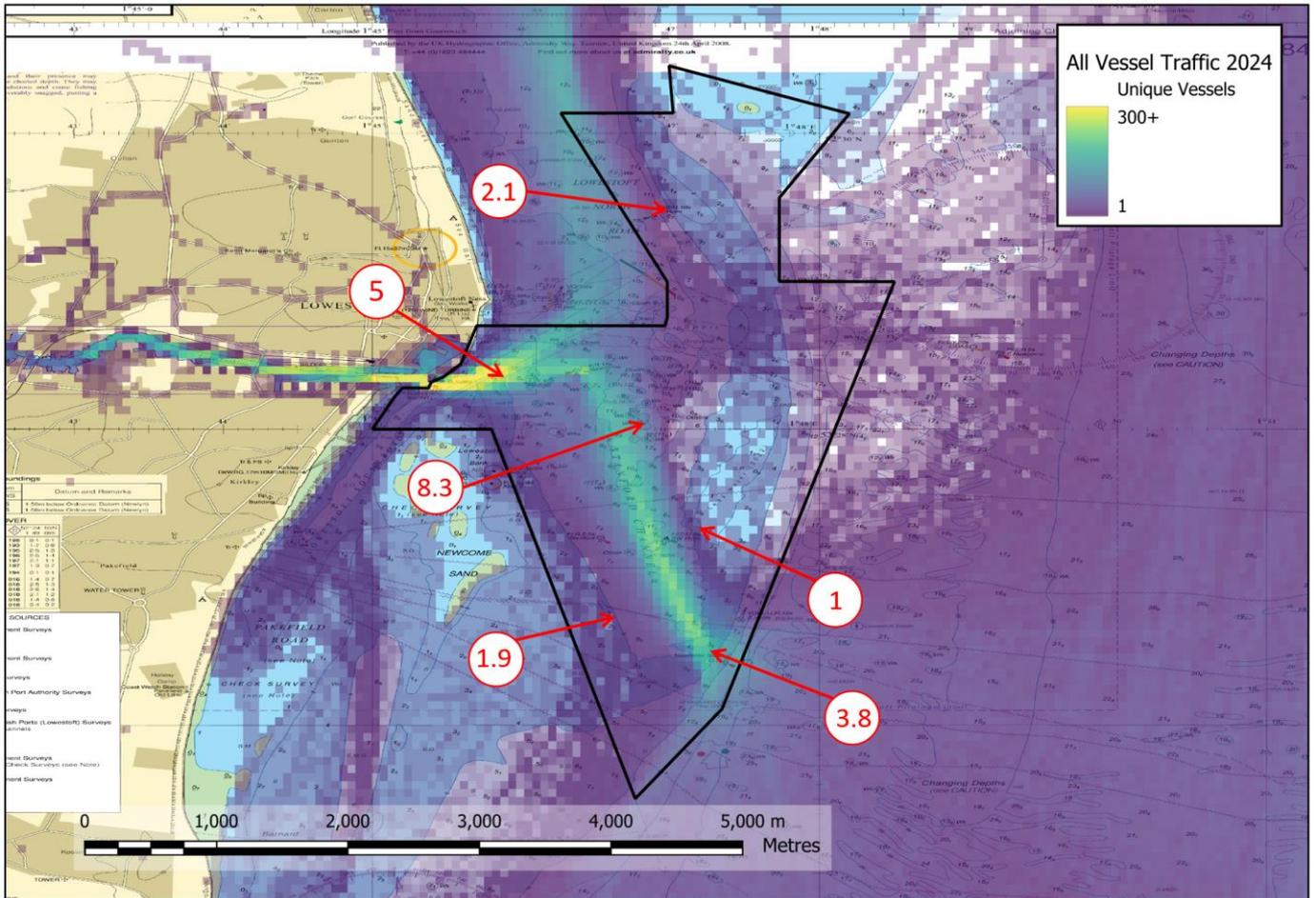


Figure 10: AIS heatmap at 100m resolution grid size. Density unit is unique vessels within the grid square within 2024. EA10 area in black and significant depth soundings (m) overlaid on chart 1535-0

## 6. RECOMMENDATIONS FOR FUTURE SURVEYS

### Survey Interval

- 6.1 Given the continued sandbank migration surrounding Holm Sand and Newcome Sand, EA10 should remain on a 3-year full survey interval, with EA10A, EA10B and EA10C remaining on an annual focused survey schedule.

### Survey Area

- 6.2 Given the sandbank migration of Holm Sand seen in the 2025 survey, it is recommended to extend the EA10 full area to the east. This will capture the eastward movement and subsequent shoaling of Holm Sand, particularly the 10m contour. Care has been taken to avoid the area of Unexploded Ordnance.
- 6.3 It is suggested that the southernmost section of EA10 can be reduced up to the limits of EA10A, as the 10m contour limit has been observed to retreat towards Newcome Sand and due to low volume of vessel traffic. To ensure this area is still surveyed it is suggested that it is transferred to EA12 to be covered on a 10 yearly basis, see Figure 12.

6.4 The 5m contour on the east side of Holm Sand is approaching the limit of EA10A, and in places is less than 20m away. Given that the 5m contour migrated by 45m in this area in the past year, it could be outside the area by 2026. Therefore, it is suggested to extend the EA10A area to the east to continue to capture the 5m contour, see Figure 13.

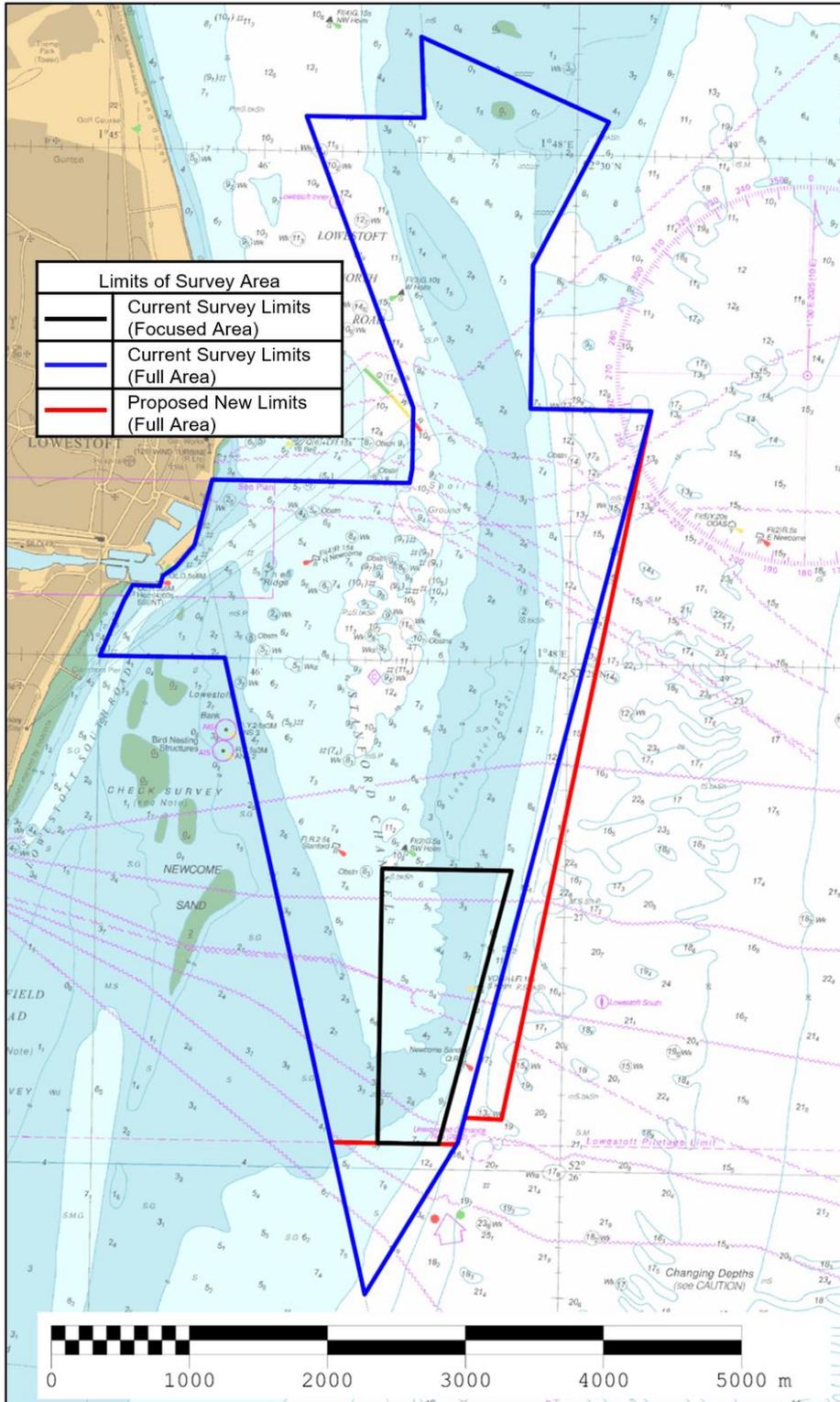


Figure 11: Recommended changes to survey limits of area EA10

The coordinates of the recommended adjusted survey area limits for the 3-yearly full area EA10 are shown below:

Current Limits:

EA10 (full) total area: 15.16 km<sup>2</sup>

Proposed New Limits:

EA10 full total area: 15.35 km<sup>2</sup>

	Latitude	Longitude
1	52-28.999998N	001-47.730000E
2	52-28.998000N	001-48.502950E
3	52-26.200000N	001-47.620000E
4	52-26.205000N	001-47.385000E
5	52-26.100000N	001-47.337000E
6	52-26.100000N	001-46.535000E
7	52-28.000200N	001-45.799800E
8	52-28.000000N	001-45.000000E
9	52-28.219800N	001-45.150000E
10	52-28.279800N	001-45.202500E
11	52-28.277700N	001-45.376500E
12	52-28.317600N	001-45.394800E
13	52-28.356750N	001-45.480732E
14	52-28.442520N	001-45.594342E
15	52-28.699998N	001-45.700000E
16	52-28.699900N	001-46.963626E
17	52-28.756356N	001-46.979436E
18	52-28.996728N	001-46.978764E
19	52-30.137496N	001-46.264716E
20	52-30.137298N	001-46.562600E
21	52-30.138198N	001-47.018300E
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23	52-30.133362N	001-48.200574E
24	52-29.564700N	001-47.730000E

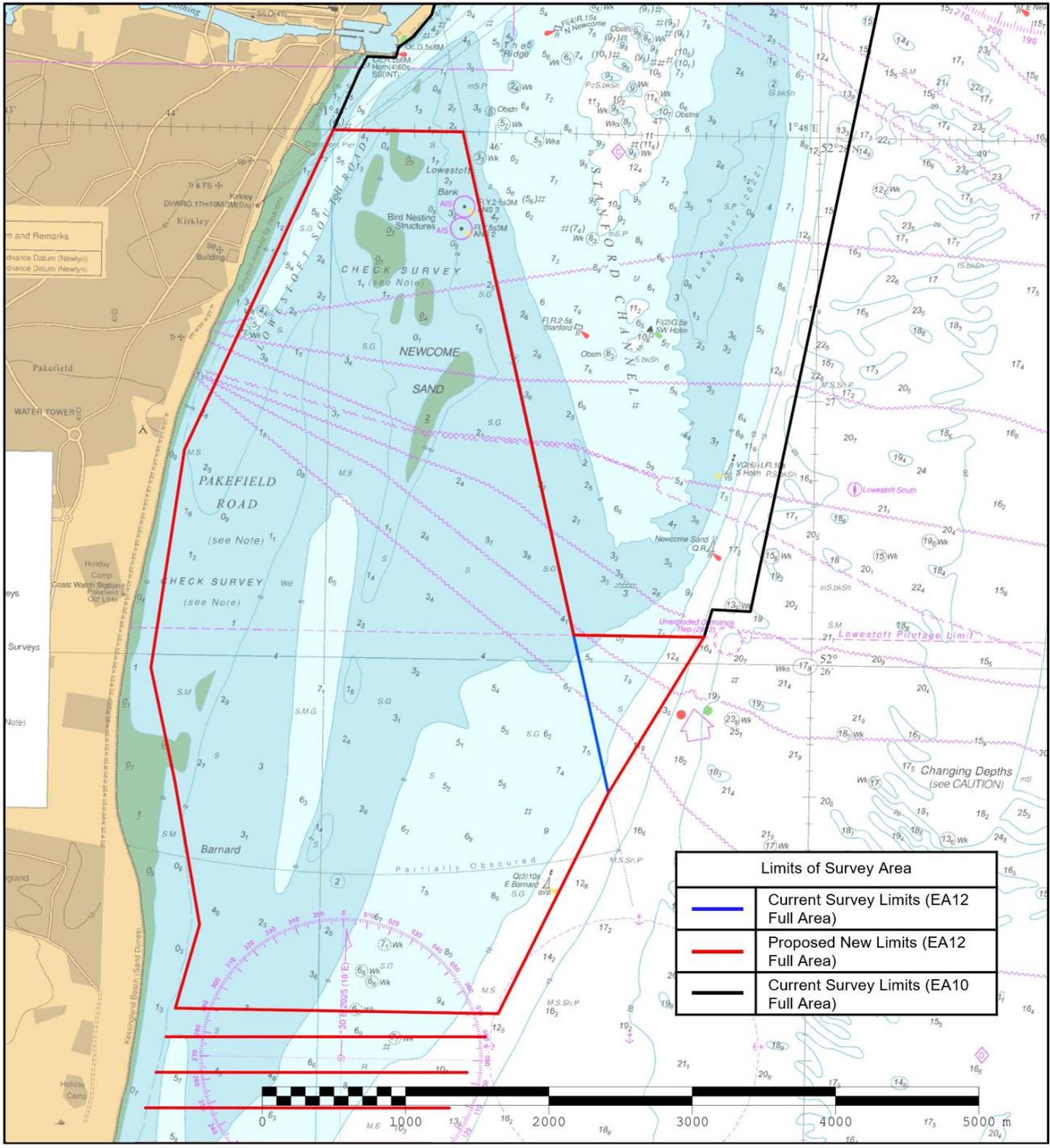


Figure 12: Recommended changes to survey limits of area EA12

The coordinates of the recommended adjusted survey area limits for the 10 yearly full area EA12 are shown below:

Current Limits:  
EA12 (full) total area: 14.47 km<sup>2</sup>

Proposed New Limits:  
EA12 (full) total area: 14.97 km<sup>2</sup>

	Latitude	Longitude
1	52-27.999900N	001-45.000000E
2	52-28.000200N	001-45.799800E
3	52-26.099868N	001-46.533744E
4	52-26.100156N	001-47.336754E
5	52-25.503372N	001-46.764126E
6	52-24.660000N	001-46.109028E
7	52-24.660000N	001-44.122074E
8	52-24.978300N	001-44.262300E
9	52-25.520100N	001-44.094600E
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11	52-26.777700N	001-44.117700E

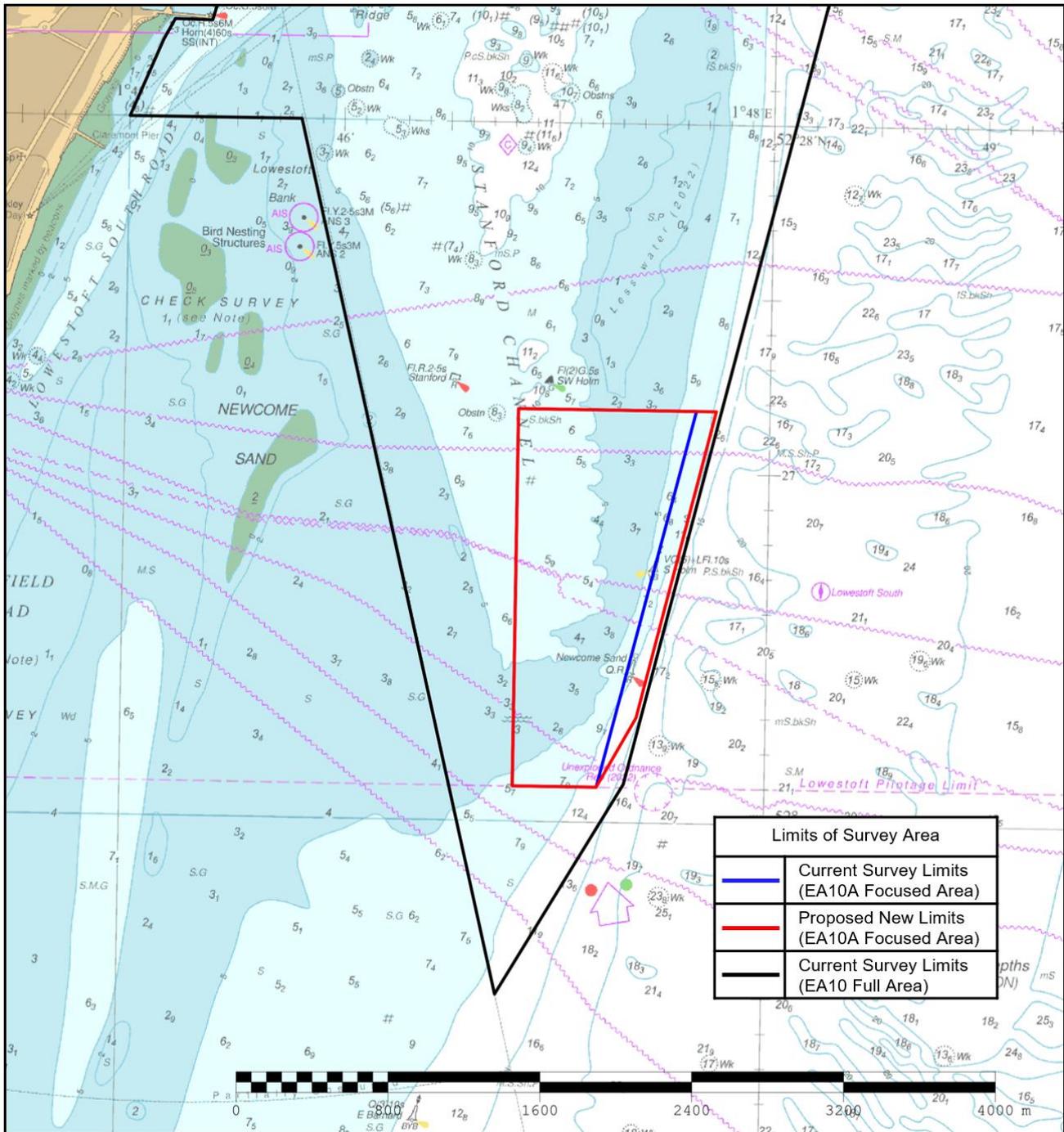


Figure 13: Recommended changes to survey limits of area EA10A

The coordinates of the recommended adjusted survey area limits for the yearly focused area EA10A are shown below:

Current Limits:  
EA10A (focused) total area: 1.38 km<sup>2</sup>

Proposed New Limits:  
EA10A (focused) total area: 1.57 km<sup>2</sup>

	Latitude	Longitude
1	52-27.180000N	001-46.830000E
2	52-27.180000N	001-47.749998E
3	52-26.299998N	001-47.400000E
4	52-26.100000N	001-47.220000E
5	52-26.100000N	001-46.830000E