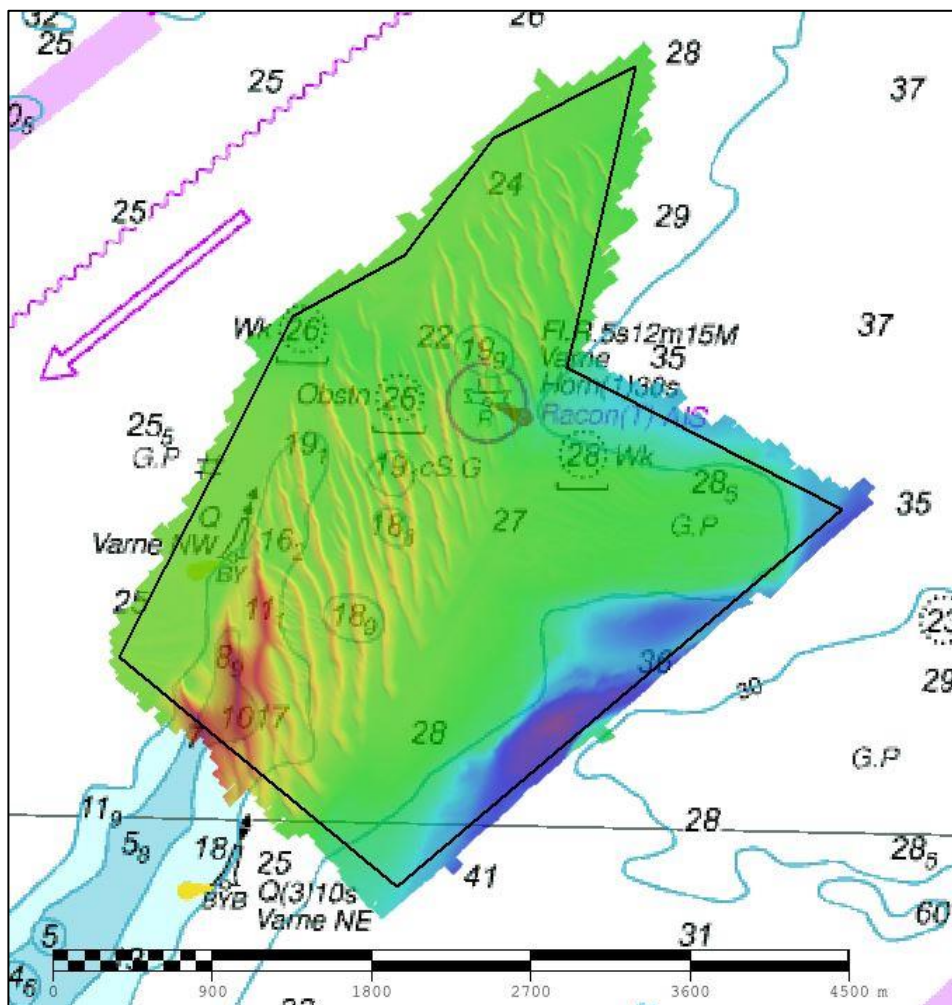




UK Hydrographic  
Office

## DEEP WATER ROUTE M - NORTH EAST VARNE 2019 ASSESSMENT

An assessment of the 2019 hydrographic survey of the area DWR M – NE Varne: 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).

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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

## DWR M - NORTH EAST VARNE, 2019

### 1. SUMMARY

#### Changes Detected

1.1 Very little change since last survey in 2007. Minor depth changes due to moving sandwaves.

#### Reasons for Continuing to Resurvey the Area

1.2 Shoaling depths over The Varne Bank in the centre of this busy deep-water shipping lane poses a danger to navigating vessels. Due to the nature of the seabed type and currents and tides in the area sediment can be mobile and needs continued long term monitoring to ensure safe navigation.

#### Recommendations

1.3 Due to the importance of monitoring this shoal and potentially mobile bank it is recommended to retain the current extents of the area.

1.4 While there is potential for sediment in this area to move there has been very little change since the last survey in 2007, therefore it is recommended to retain the relatively long 12-year re-survey period.

### 2. LOCATION

2.1 Survey interval at time of resurvey: 12 years

2.2 Area Covered: 8.67 km<sup>2</sup>

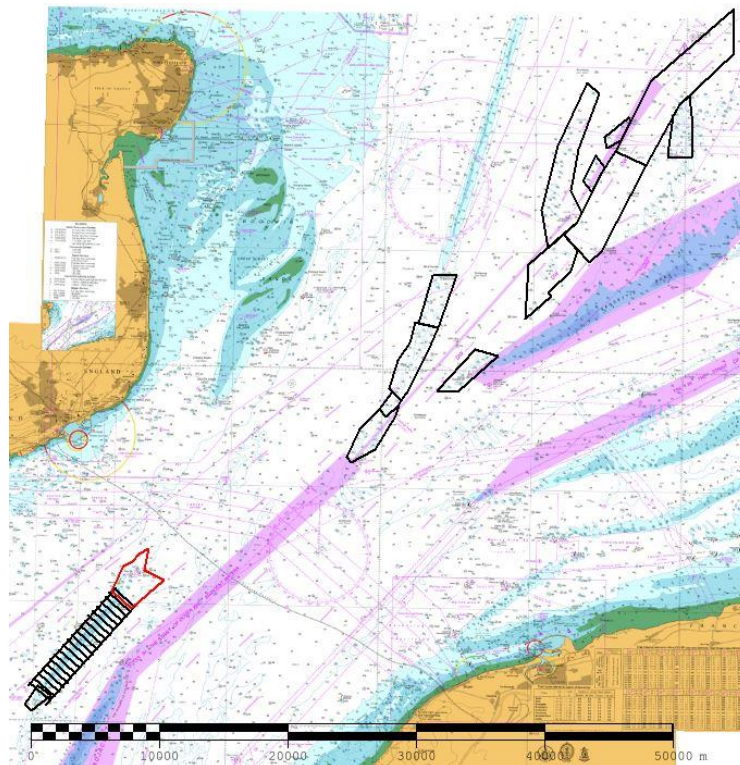


Figure 1: 2019 Deep Water Route Routine Resurvey areas overlaid on BA Charts 1892-0 and 0323-0 with area DWR\_M\_NE\_Varne in red

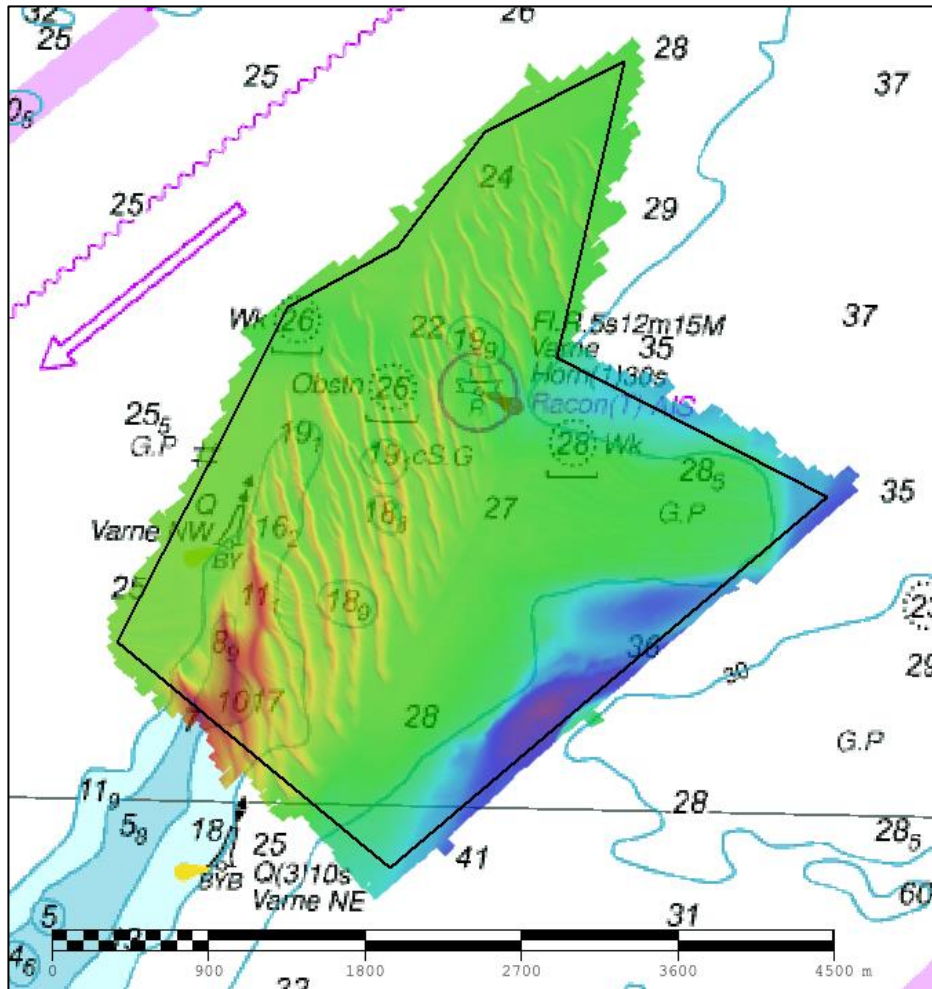


Figure 2: 2019 survey data overlaid on BA Chart 1892-0

### 3. REFERENCE SURVEY DETAIL

- 3.1 HI1159 Dover Strait, 2007
- 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 2019 HI1653 DWR M NE Varne, 2019
- 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 The difference surface in Figure 3 shows localised shoaling up to 11.6m and deepening up to 12.1m where there are shifting sandwaves.
- 5.2 The depth plot in Figure 4 shows that the average depths in the 2019 survey have little changed since 2007, with the shoalest significant depth being 19.6m to the North of the Varne Lightship.

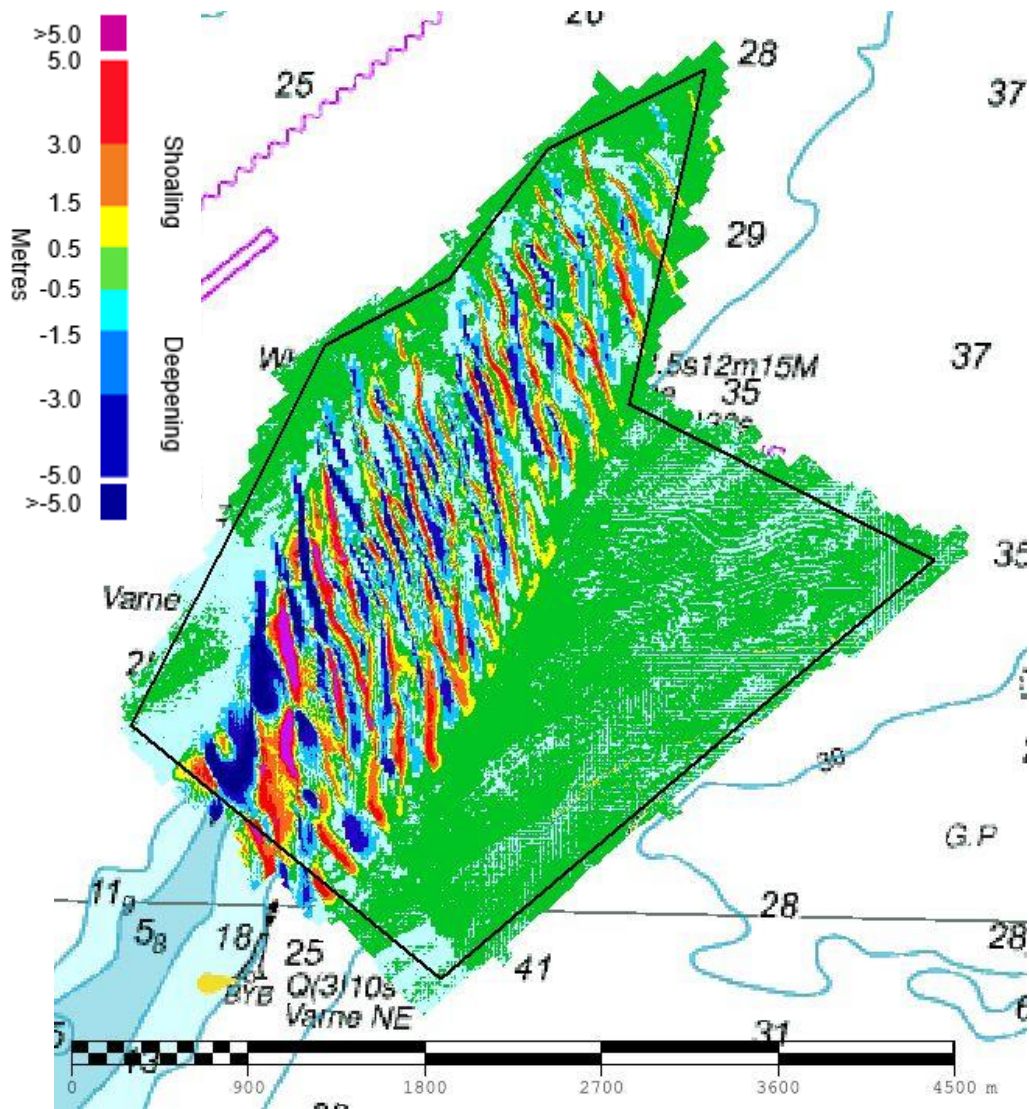


Figure 3: Difference surface showing bathymetric changes between the 2019 and 2007 surveys overlaid on BA Chart 1892-0

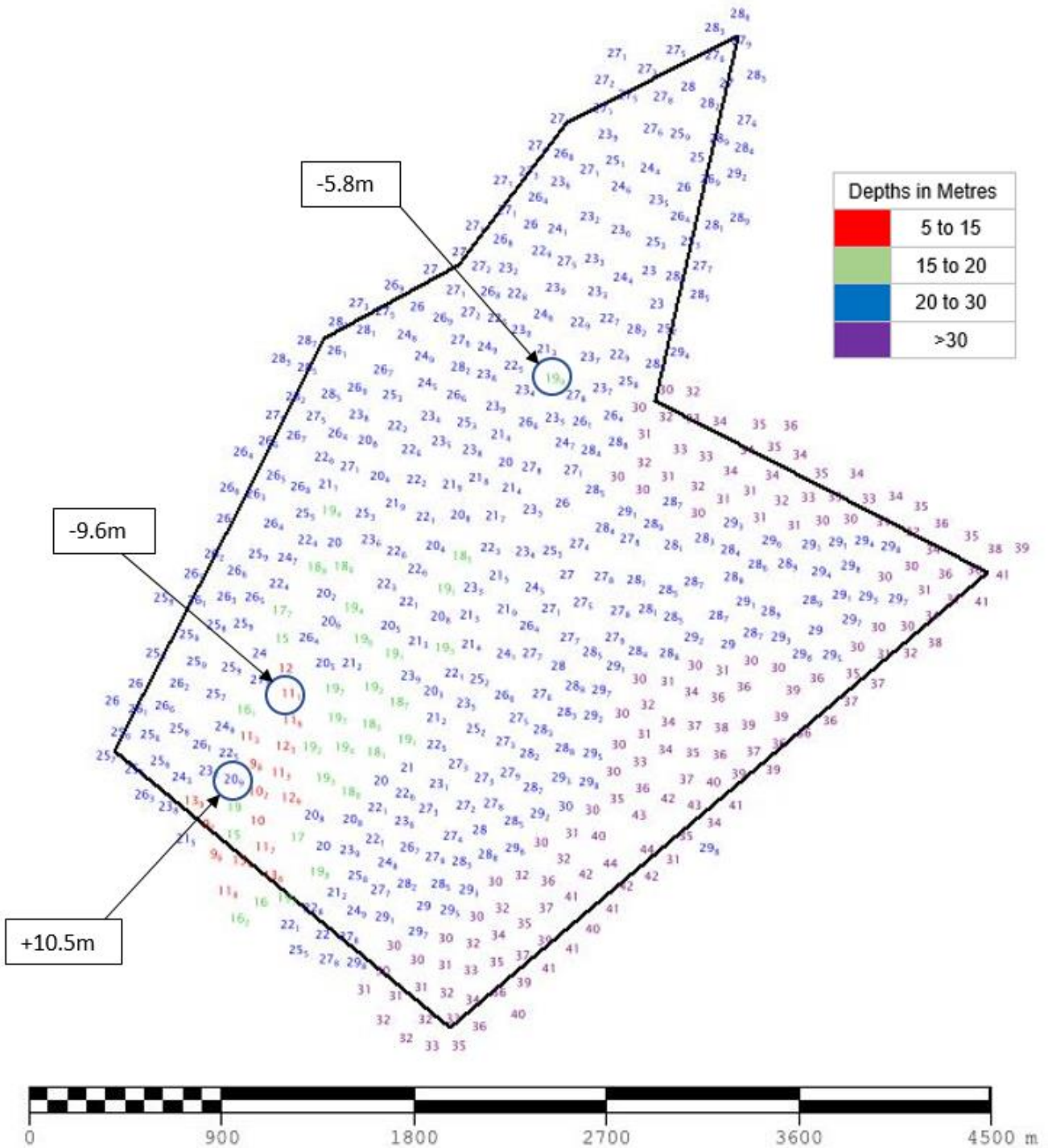


Figure 4: Colour banded depth plot from the 2019 survey with selected depth changes since the 2007 survey. Positive values (+) represent deepening. Negative values (-) represent shoaling.

## **6. RECOMMENDATIONS FOR FUTURE SURVEYS**

### **Survey Interval**

- 6.1 Despite the lack of seabed change in the last 12 years it is important to consider the location of the area, in the centre of the DWR, and the draught of vessels navigating the area. Therefore, it is recommended that DWR M – NE Varne should remain on a 12-year survey interval.

### **Survey Area**

- 6.2 The current area for DWR M – NE Varne fully covers the North Eastern end of The Varne bank and any possible areas of mobile sediment, and as there has been little to no sediment movement in the last 12 years the area currently does not need revision.