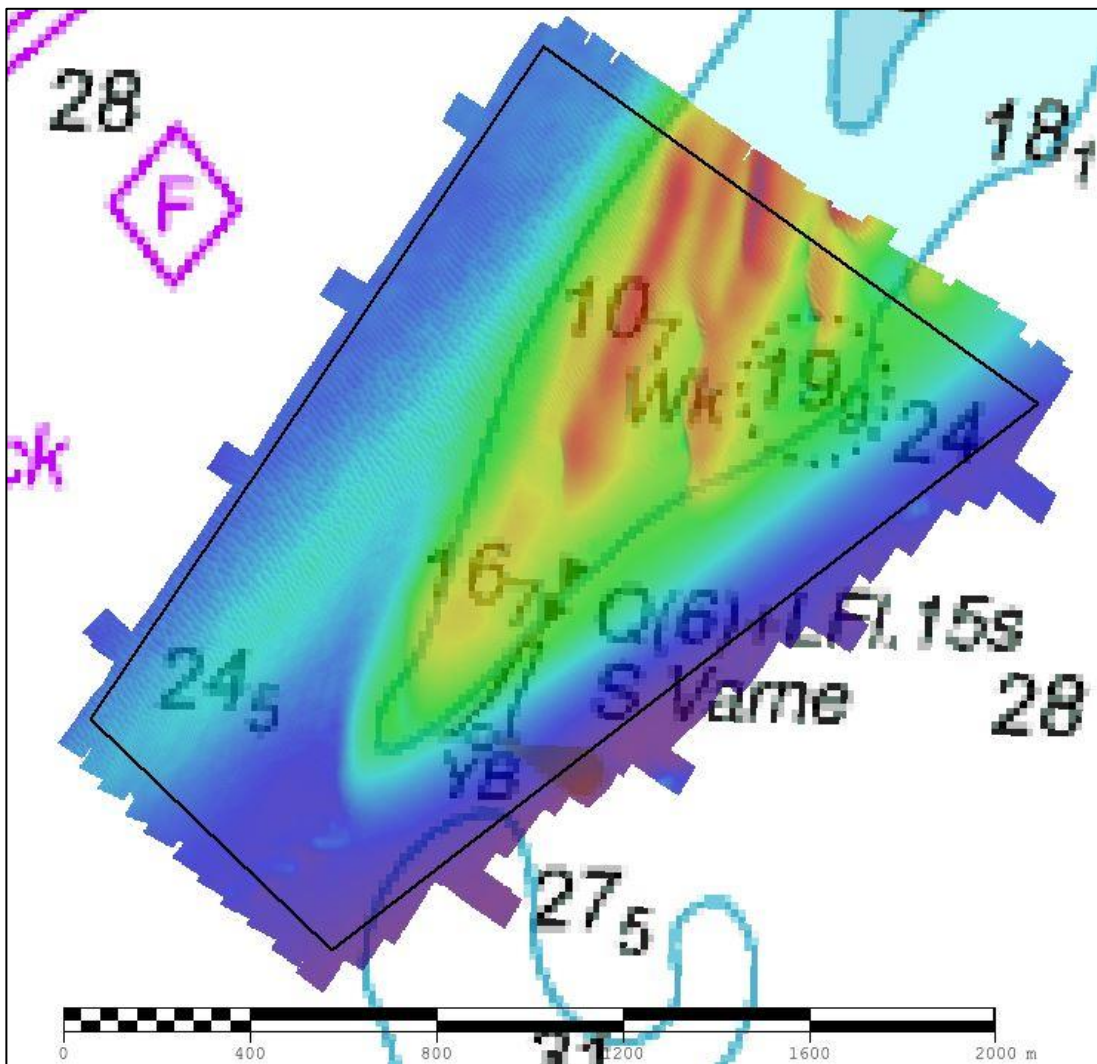




UK Hydrographic
Office

DEEP WATER ROUTE N – SOUTH WEST VARNE 2019 ASSESSMENT

An assessment of the 2019 hydrographic survey of the area DWR N SW Varne: to monitor recent seabed movement; to identify any implications for shipping; and to make recommendations for future surveys.



CONTENTS

Notes	2
1. SUMMARY	1
2. LOCATION	1
3. REFERENCE SURVEY DETAIL	2
4. NEW SURVEY DETAIL	2
5. DESCRIPTION OF RECENT BATHYMETRIC CHANGE	3
6. RECOMMENDATIONS FOR FUTURE SURVEYS	4

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.

This material is protected by Crown Copyright. It may be downloaded from the UK Hydrographic Office's (UKHO) web site and printed in full for personal or non-commercial internal business use. Extracts may also be reproduced for personal or non-commercial internal business use on the condition that the UK Hydrographic Office is acknowledged as the publisher and the Crown is acknowledged as the copyright owner.

Applications for permission to reproduce the material for any other purpose (including any distribution of the material or extracts to third parties) can be made interactively on the UKHO's web site (www.ukho.gov.uk), by e-mail to intellectualproperty@ukho.gov.uk or in writing to Intellectual Property, UK Hydrographic Office, Admiralty Way, Taunton, Somerset, TA1 2DN.

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

DEEP WATER ROUTE N – SOUTH WEST VARNE, 2019

1. SUMMARY

Changes Detected

- 1.1 Very minor changes since the 2007 survey. The South Western end of The Varne bank shows a general move of approx. 100m to the south-west, with overall depths staying generally constant.

Reasons for Continuing to Resurvey the Area

- 1.2 Potential migration of the Varne Bank adjacent to 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.

Recommendations

- 1.3 Due to the importance of monitoring this shoal and potentially mobile bank it is recommended to retain the current survey extents.
- 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 12-year re-survey period.

2. LOCATION

- 2.1 Survey interval at time of resurvey: 12 years
- 2.2 Area Covered: 1.81km²

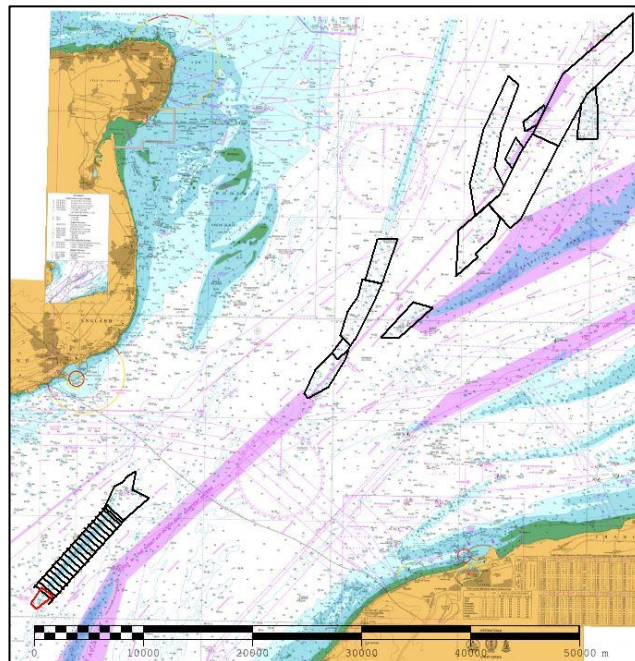


Figure 1: 2019 Deep Water Route Routine Resurvey areas overlaid on BA Charts 1892-0 and 0323-0 with area DWR N SW Varne in red

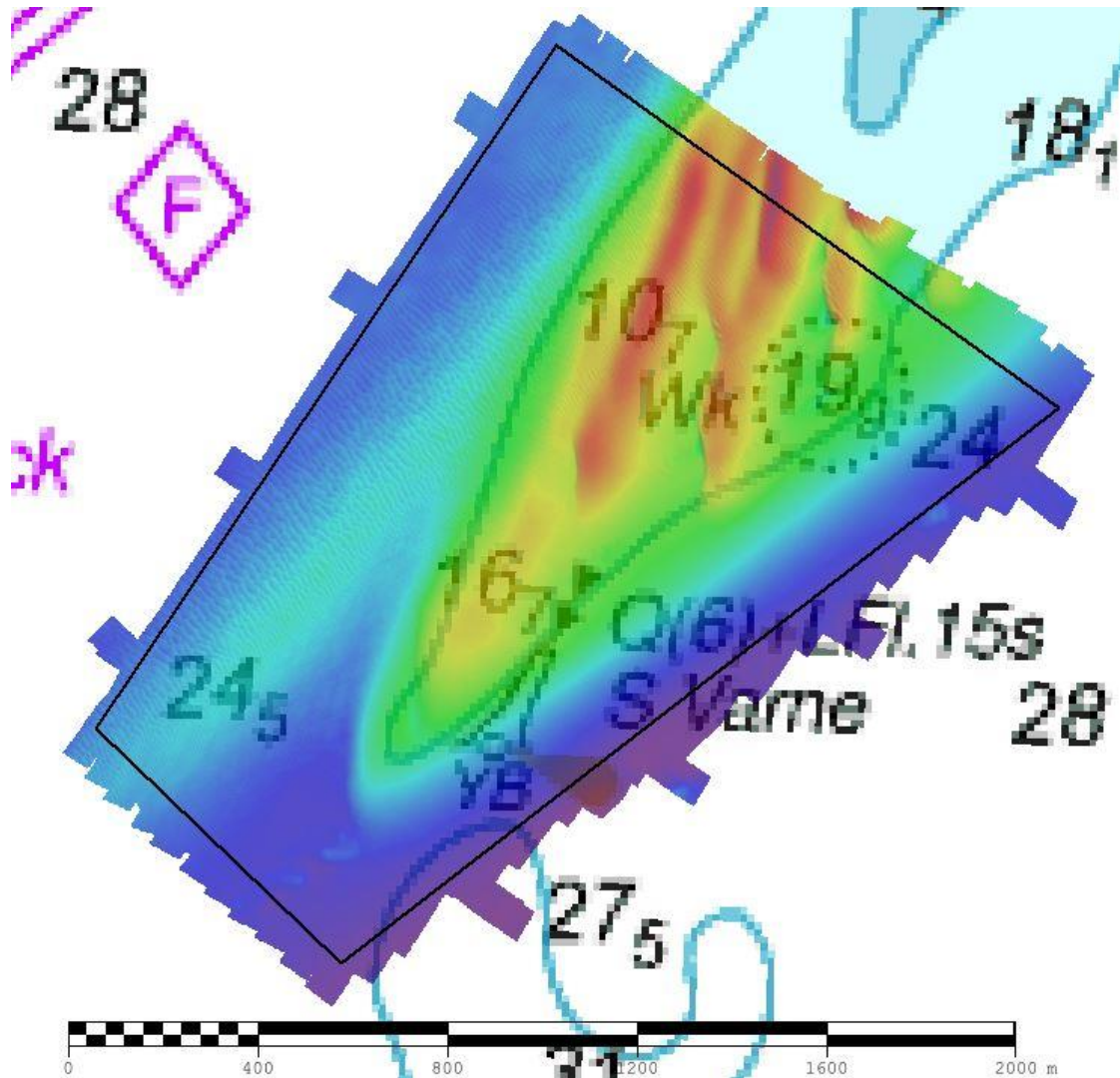


Figure 2: 2019 survey data overlaid on BA Chart 1892-0

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 HI1655 DWR N SW 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 7.4m and deepening up to 9.5m where there are shifting sandwaves.
- 5.2 The movement of sediment appears to be in a south-westerly direction, with some sandwaves moving and extending the Varne Bank by up to approx. 100m.
- 5.3 The depth plot in Figure 4 shows that the least depth in the 2019 survey is 12.5 meters, located close to the SW end of the bank this is a change of +5.7m since 2007 in this location.

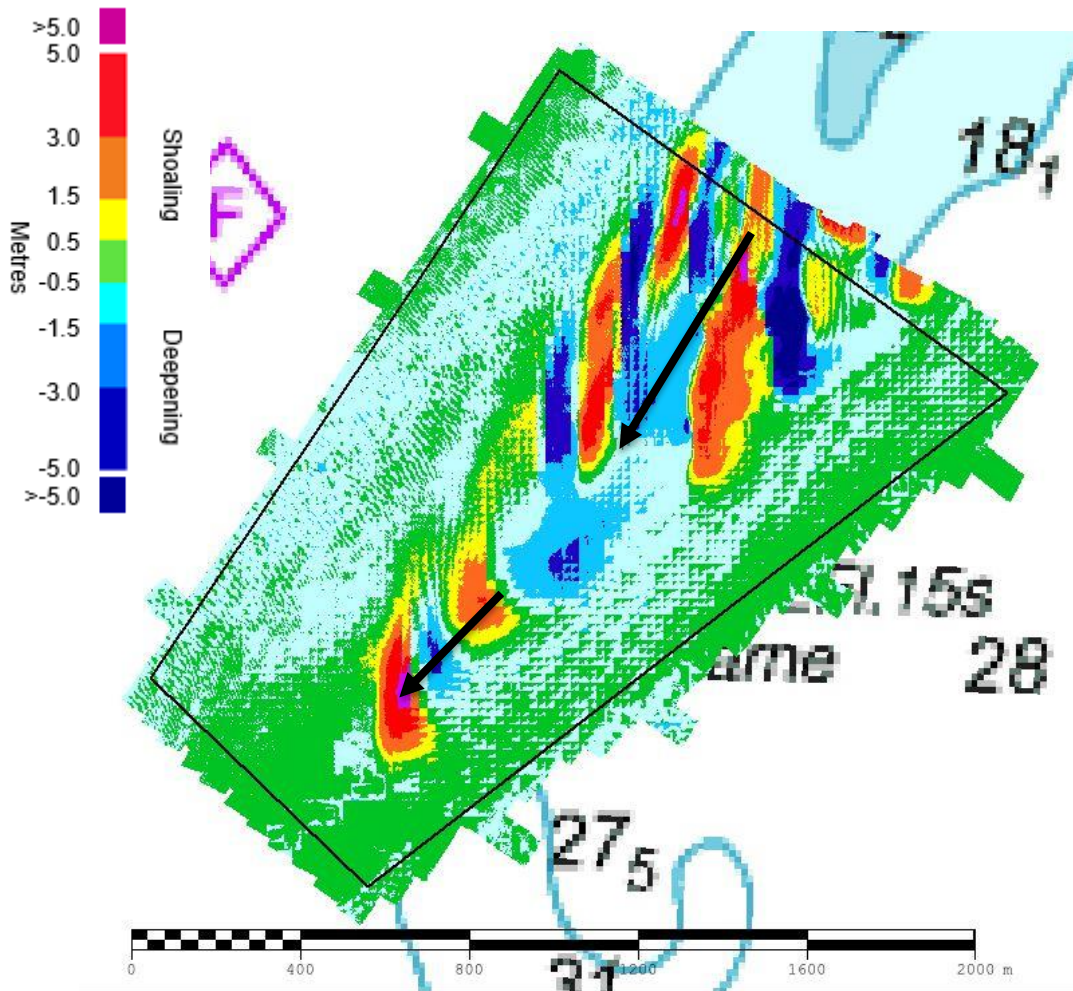


Figure 3: Difference surface showing bathymetric changes between the 2019 and 2007 surveys overlaid on BA Chart 1892-0 (Black arrows represent sand wave migration since 2007 survey).

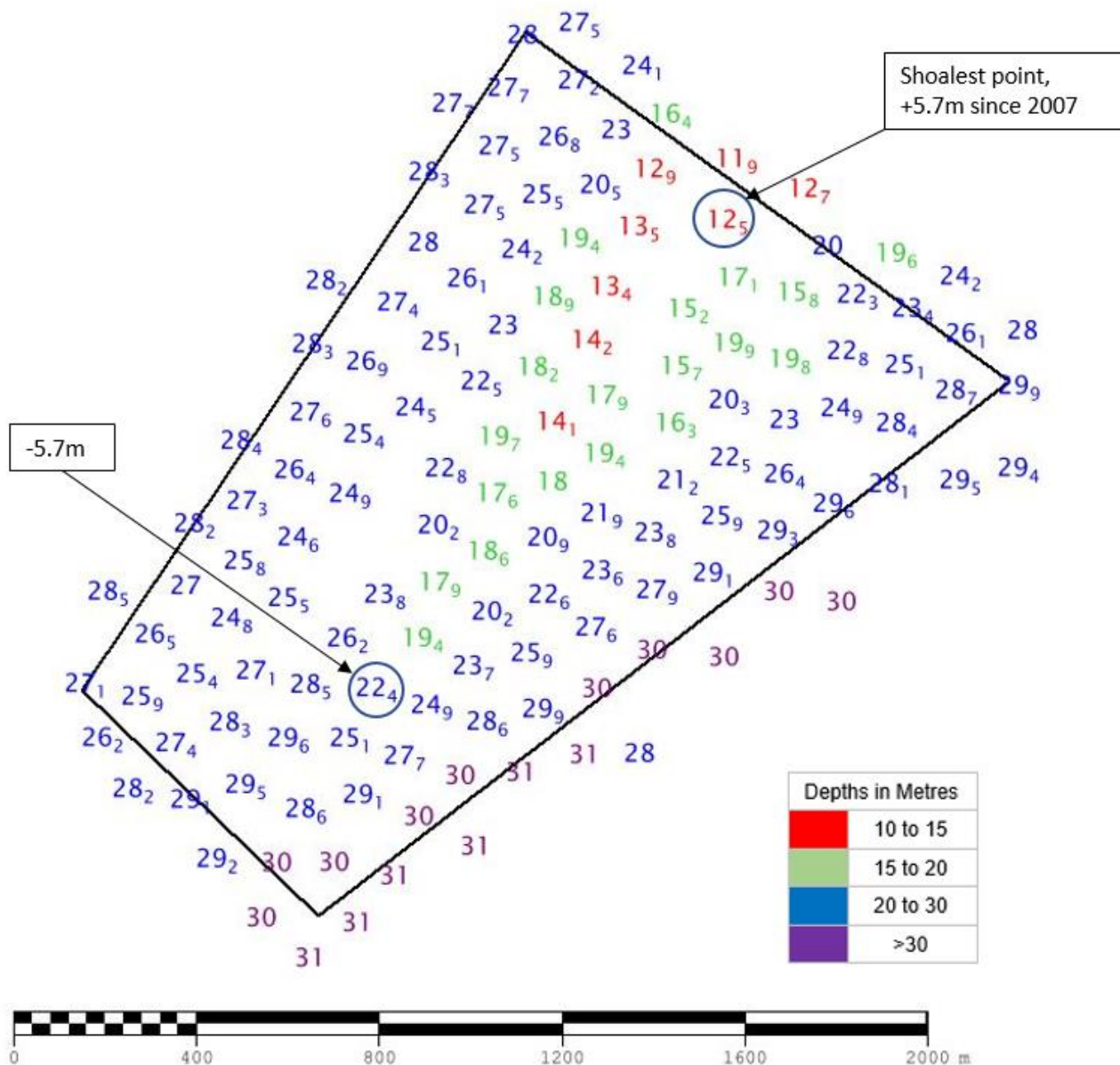


Figure 4: Colour banded depth plot from the 2019 survey with selected depth changes since the 2007 survey. Positive values (+) represent deepening. Negative values (-) represent shoaling.

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 N – SW Varne should remain on a 12-year survey interval.

Survey Area

6.2 The current area for DWR N – SW Varne fully covers the south-western end of the Varne Bank and any possible areas of mobile sediment, and as there has been little sediment movement in the last 12 years the area currently does not need revision.