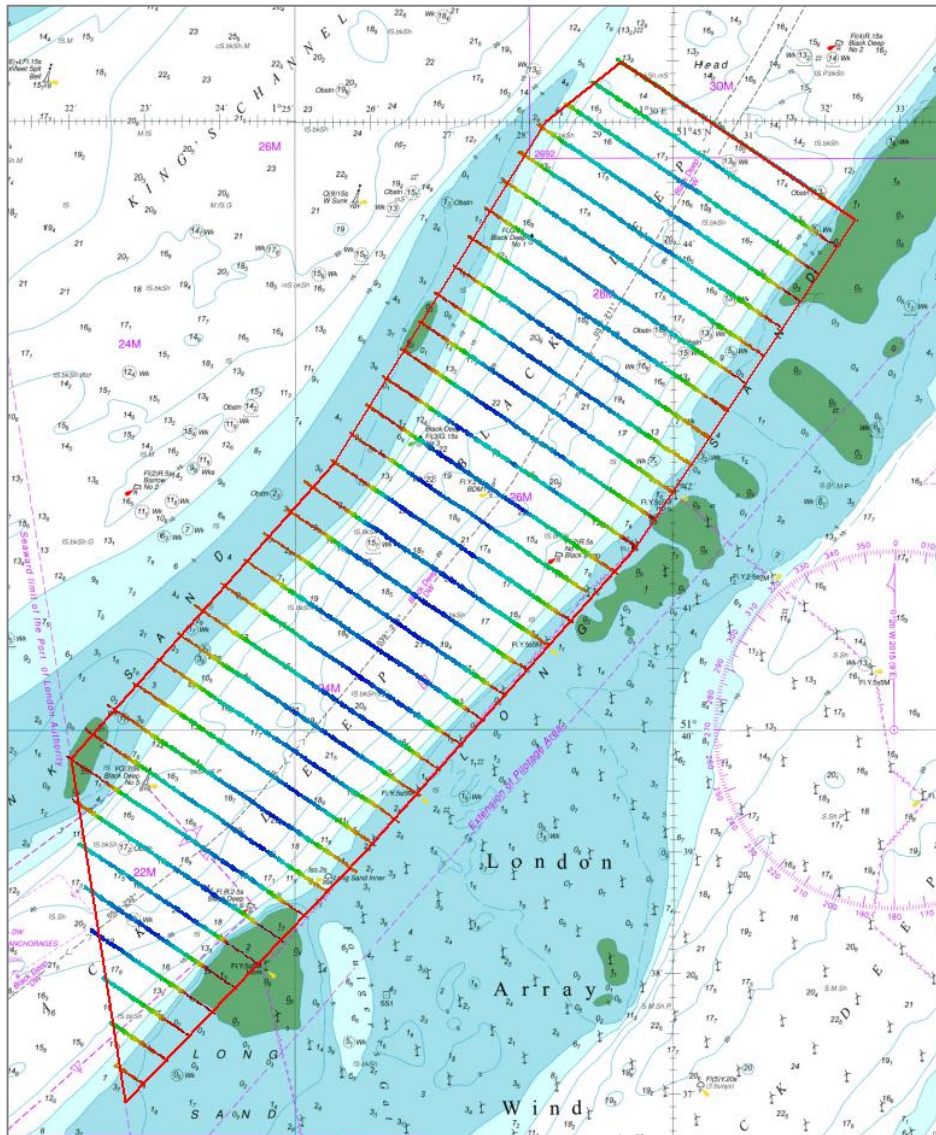




THAMES ESTUARY

BLACK DEEP

SUMMARY ASSESSMENT ON THE ANALYSIS OF ROUTINE RESURVEY AREA TE6 FROM THE 2014 SURVEY



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Summary Assessment TE6/2014

A summary assessment of the 2014 hydrographic survey of the area: to monitor recent seabed movement; to identify any implications for shipping; and to make recommendations for future surveys.

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BLACK DEEP, 2014

1 Introduction

- 1.1 Area TE6 is fully surveyed every 12 years, with an intervening 500 metre check-line survey. This summary report examines the check-line survey conducted in 2014.

2 Description of the Areas

- 2.1 TE6 covers Black Deep, which is bounded by the banks of Sunk Sand to the northwest and Long Sand to the southeast.
- 2.2 Black Deep includes a Deep Water track for deep draught vessels bound for London Gateway, which has alongside depths of 17 metres. Immediately to the northeast of TE6, dredging work has been undertaken to provide deeper water along the track, with a minimum charted depth of 15.7 metres.

3 Survey Data

- 3.1 The 2008 survey was conducted from 20 to 28 September. The 2014 survey was conducted for 29 June to 1 July. The Vertical Offshore Reference Frame (VORF) and GPS heighting were used to reduce depths to Chart Datum in both surveys.

4 Changes since the 2008 Survey

- 4.1 The surface difference plot at [Annex A](#) shows the changes in depth that have occurred since last surveyed. Cross-sections across the channel are at [Annexe B](#).
- 4.2 The surface difference plot and cross-sections shows most of the change occurring on the slopes of the adjacent banks, but with some changes to the low ridges within the main channel. Depths along the Black Deep DW track are shallowest in the north of the area, where there is a charted 15.9 metres. To the south of this depths quickly increase to generally deeper than 18 metres along the remaining part of the track (Annex B [profile O-P](#)), but with a minimum depth of 15.4 metres 200 metres southeast of the Black Deep DW track, to the northeast of BDM1 buoy as shown in figure 1. A minimum depth of 15.4 metres is found over this low ridge in both the 2008 and 2014 surveys.

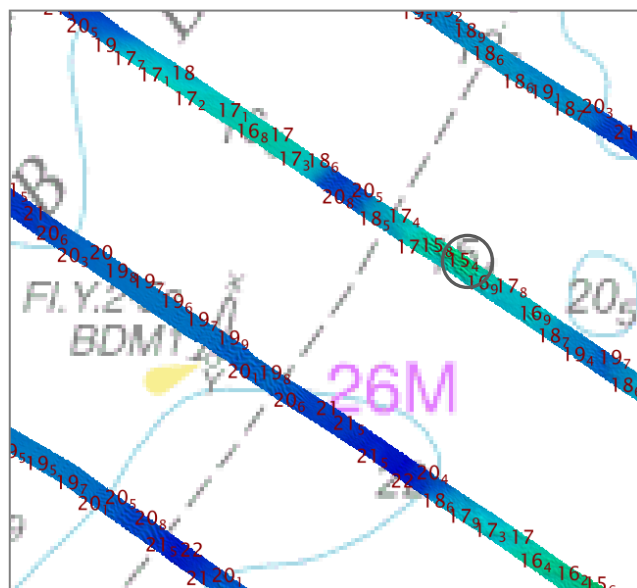


Figure 1: Selected soundings from the 2014 survey

5 Implications for Shipping

- 5.1 Changes within the channel present no new concerns to shipping using Black Deep. Sunk Sand and Long Sand remain adequately marked by Black Deep buoys. Shipping is densest along the DW track, with the wider indicative shipping route, based on sample AIS data, shown in figure 2.

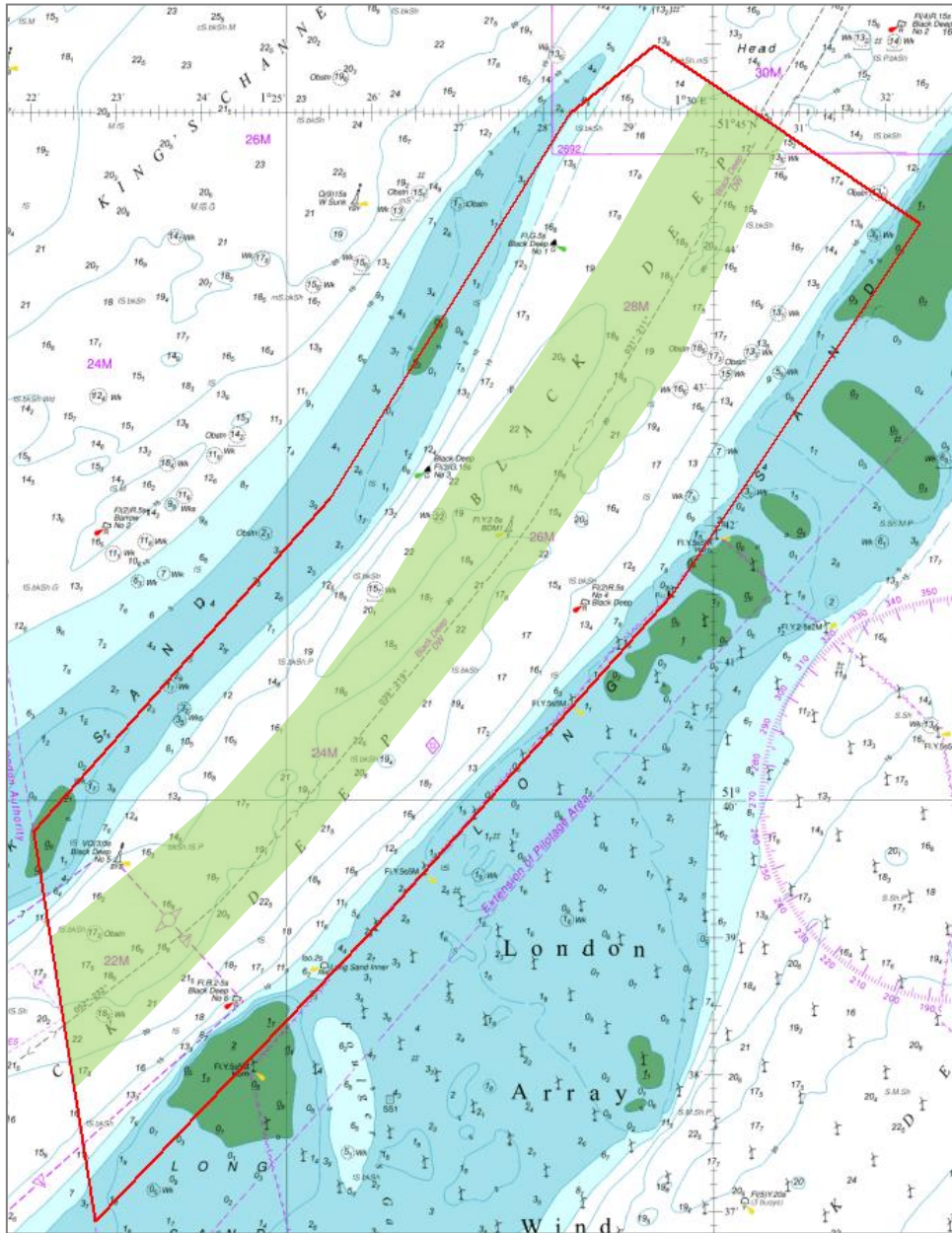


Figure 2: Indicative shipping route

6 Recommendations

- 6.1 Due to the limited changes that have occurred in the area and general depth of water, it is recommended that the check-line survey is removed from the programme, with the full area continuing to be re-surveyed every 12 years.

6.2 It is recommended that a 6-year focused re-survey area is established to cover the shoal patch lying northeast of BDM1 buoy, as shown in figure 3 below, due to its proximity to the Black Deep DW track. The area covers 0.43 km².

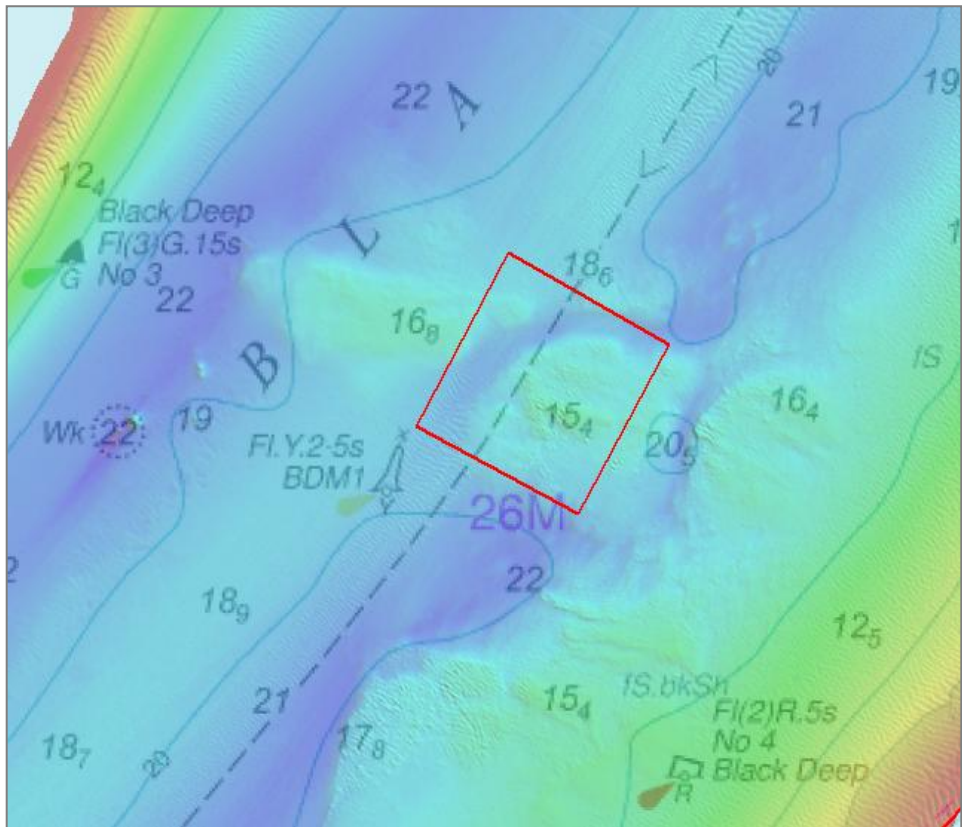
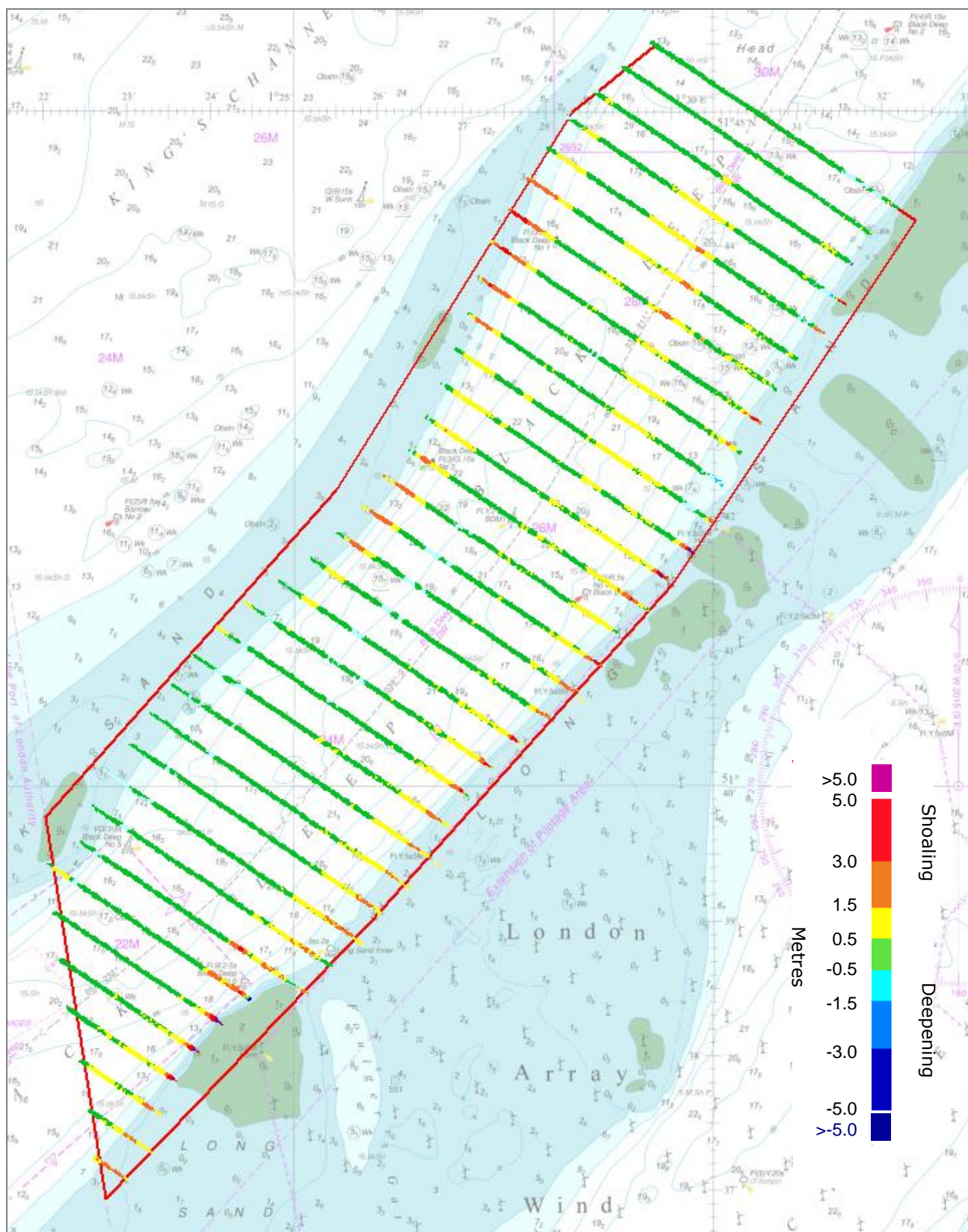
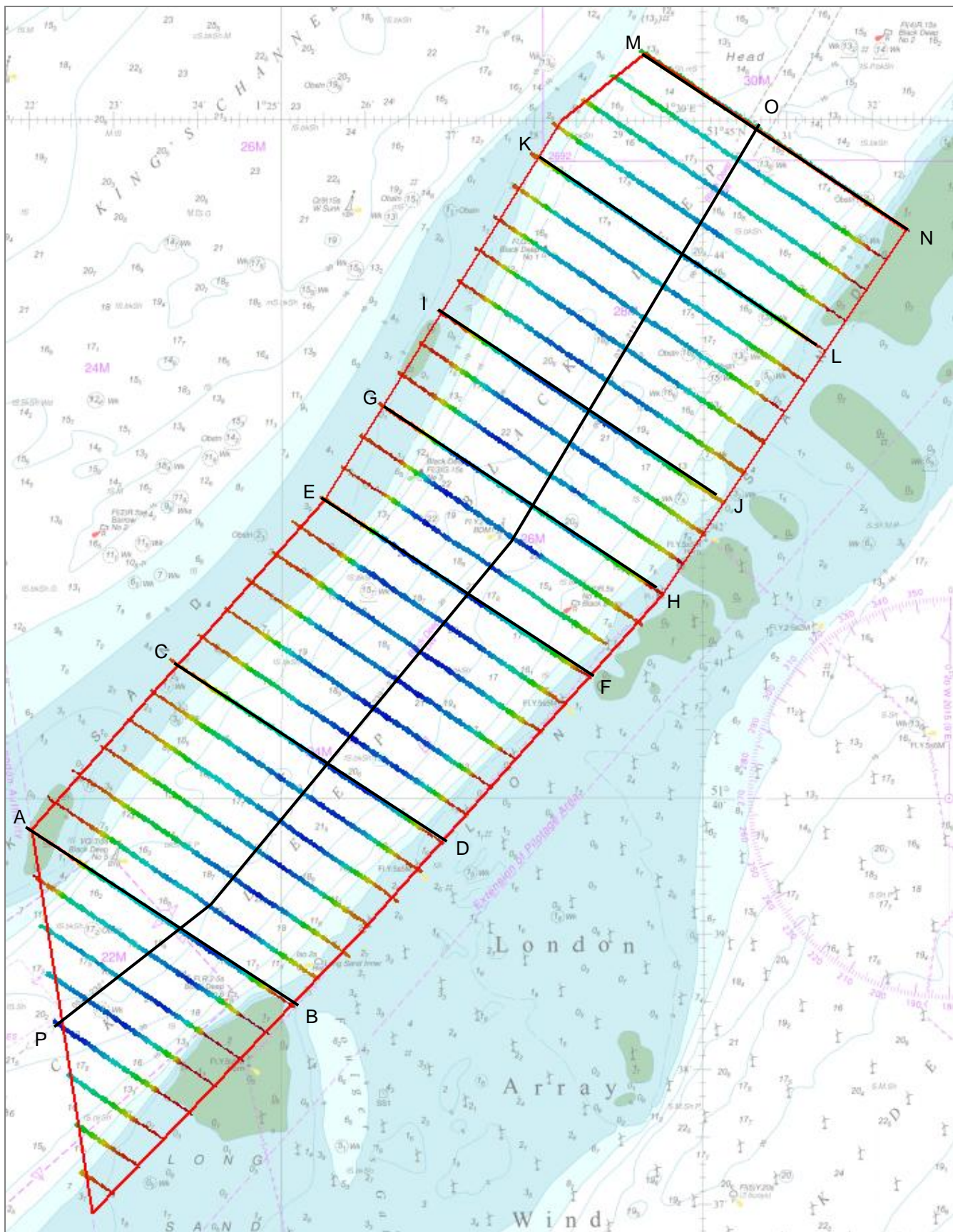


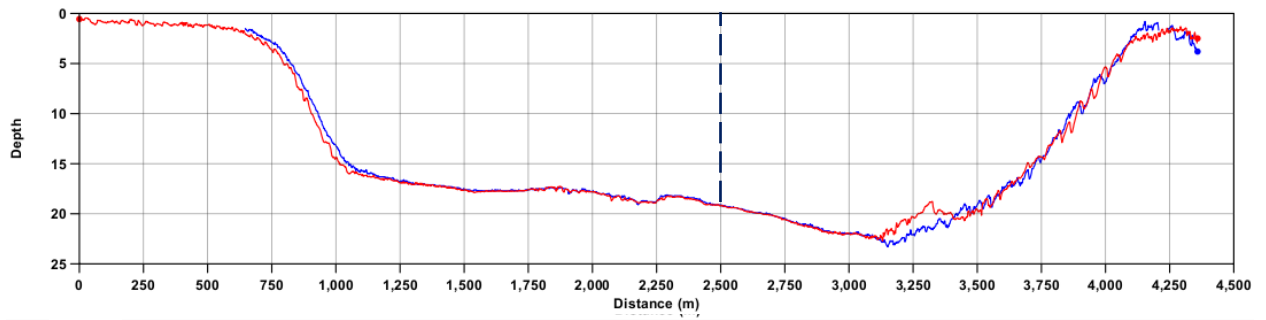
Figure 3: Proposed 6-year focused survey area

SURFACE DIFFERENCE LAYER SHOWING BATHYMETRIC CHANGES BETWEEN THE 2008 AND 2014 SURVEYS



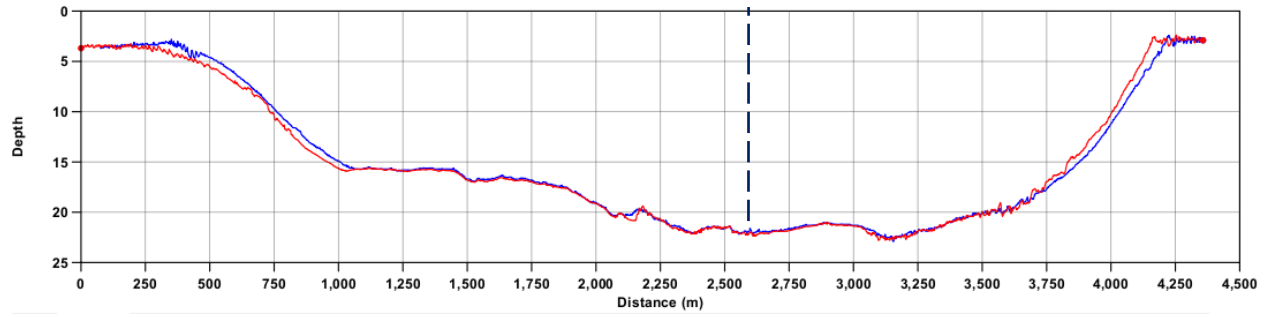
CROSS-SECTION PROFILES





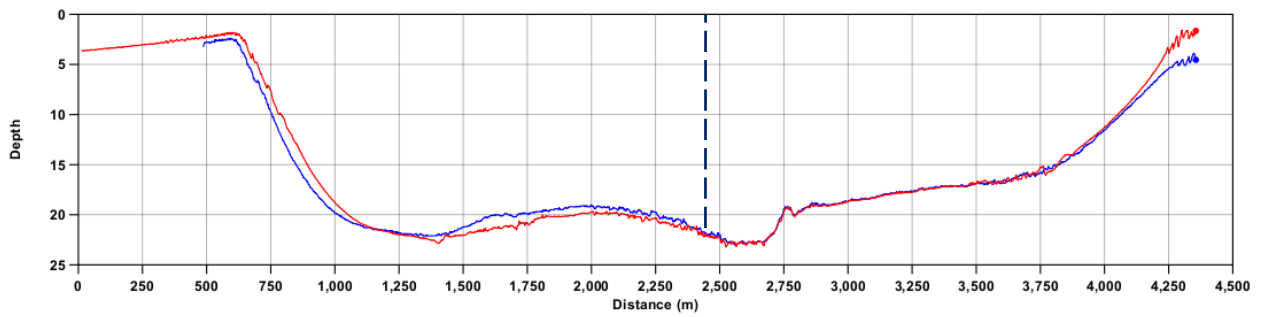
A

B



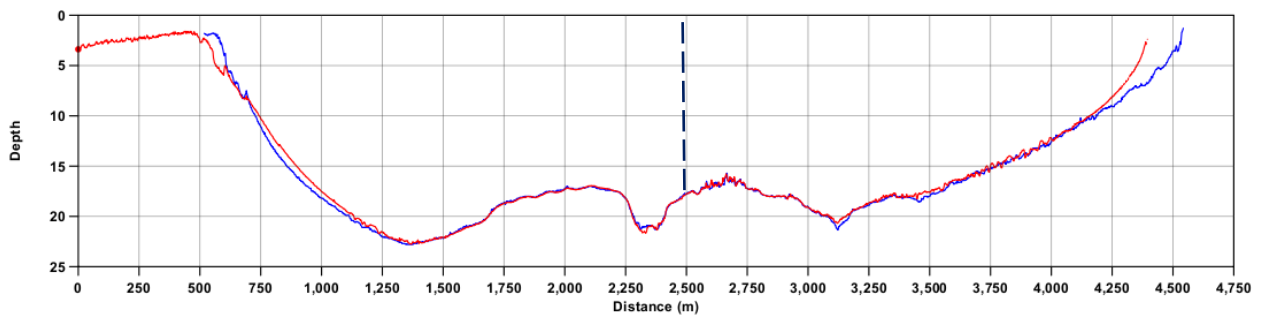
C

D



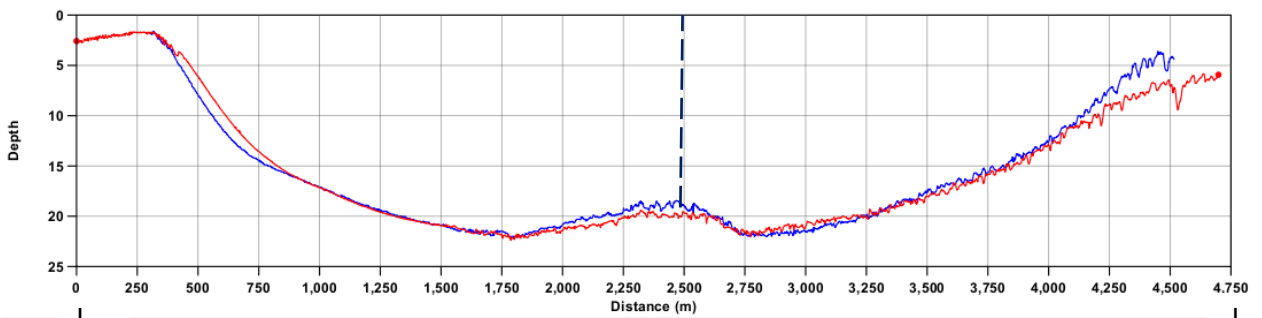
E

F



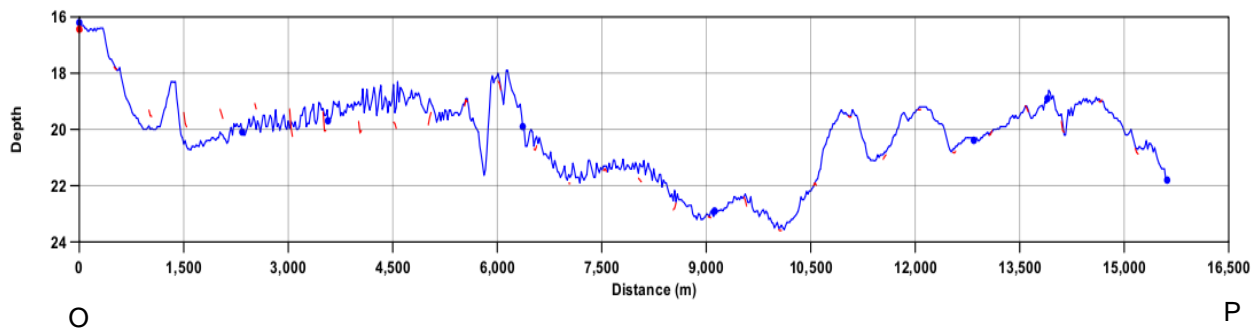
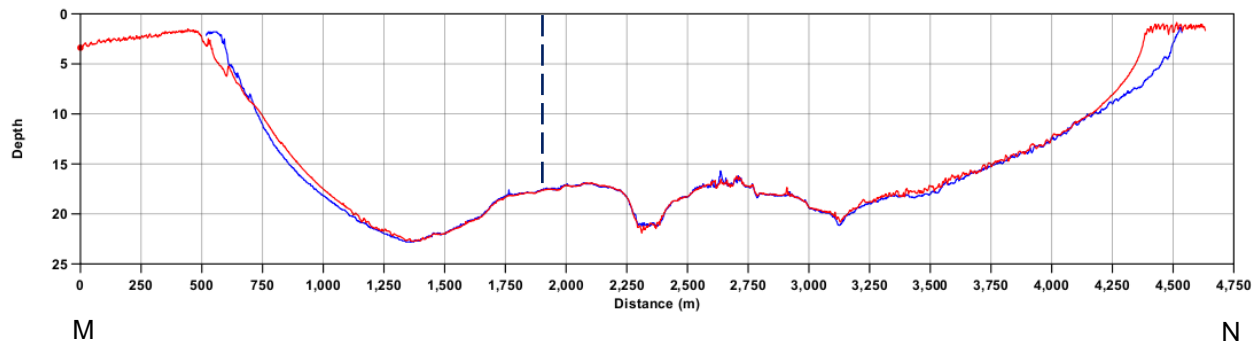
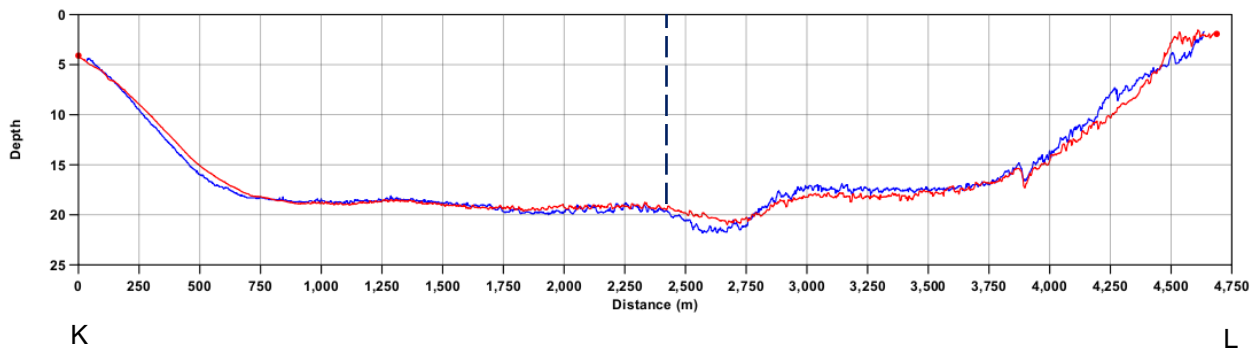
G

H



I

J



	2014
	2008
	Black Deep DW track