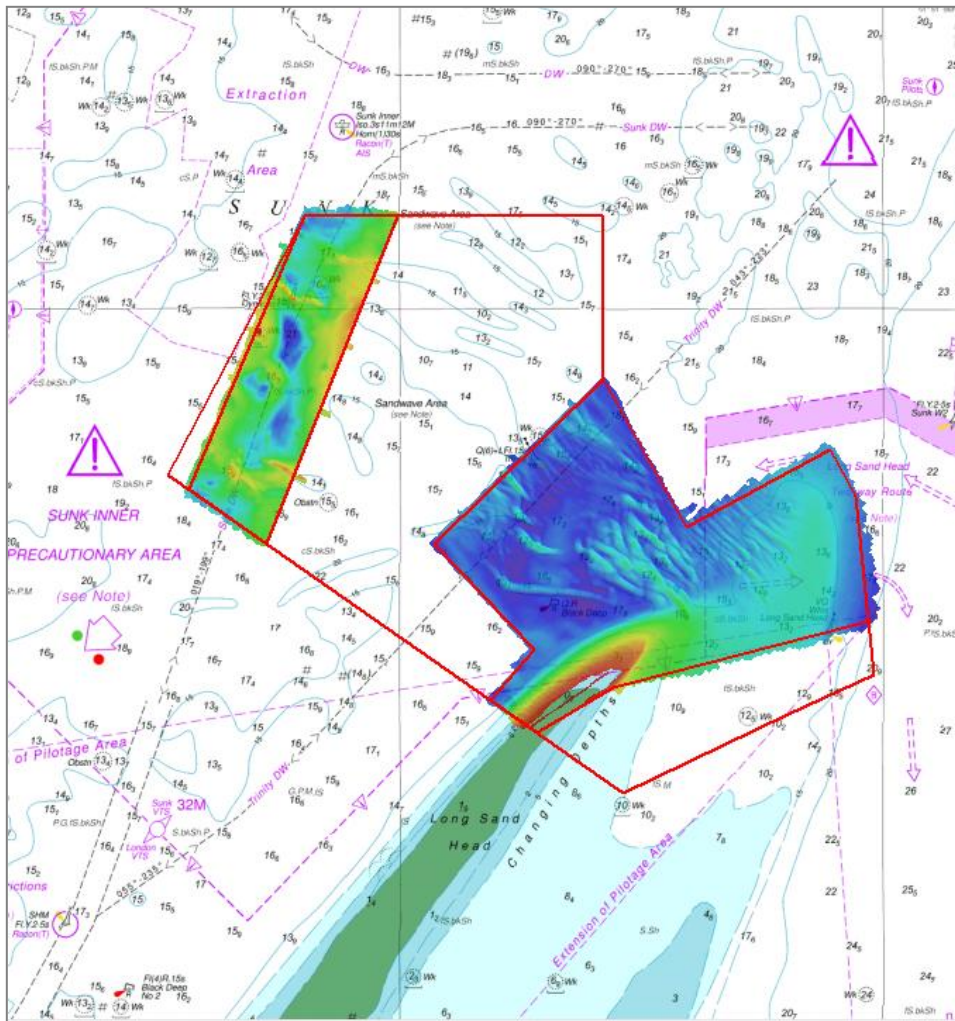




THAMES ESTUARY

LONG SAND HEAD (TE5A)

SUMMARY ASSESSMENT ON THE ANALYSIS OF ROUTINE RESURVEY AREA TE5A FROM THE 2014 SURVEY



THAMES ESTUARY

LONG SAND HEAD (TE5A)

Summary Assessment TE5A/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.

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.

LONG SAND HEAD, 2014

1 Introduction

- 1.1 TE5A is scheduled to be fully re-surveyed every 3 years; within the area, two focused sub-areas are surveyed annually (as shown on the front of this report). These focused areas concentrate on the areas of greatest concern, taking into account sediment mobility, depth of water and draught of shipping using the areas.
- 1.2 This summary report looks at the latest focused survey of TE5A and compares it against the previous survey. For more details on the area, including long-term changes, the report on the last full 3-year survey, conducted in 2012, should be consulted.

2 Description of the Area

- 2.1 The two focused areas cover parts of the Sunk and Trinity Deep Water tracks, Long Sand Head and the area to the north and east of it.
- 2.2 Sandwaves within the Trinity area provide the controlling depths for shipping using the route as an approach into Black Deep. Shoal sandwaves also fall on or near the Sunk route. Long Sand Head has extended north-eastwards over recent years, requiring the repositioning of Black Deep buoy.

3 Survey Data

- 3.1 The 2013 survey was conducted from 29 October to 7 November. The 2014 survey was conducted from 19 June to 3 July, with both surveys experiencing days lost due to bad weather. The Vertical Offshore Reference Frame (VORF) and GPS heighting were used in both surveys to reduce depths to Chart Datum, with the final deliverable being a 1 metre CUBE (Combined Uncertainty and Bathymetric Estimator) gridded surface. Agreement between the two surveys is very good away from mobile bedforms. The survey limits were revised after the 2013 survey and limits for the 2013 and 2014 surveys are shown in [Annex D](#).

4 Changes since the 2013 Survey

Long Sand Head & Trinity Deep Water Track

- 4.1 Differences between the 2013 and 2014 surveys are shown in the surface difference plot at [Annex A](#). To provide visibility of changes in the recently extended eastern part of the Long Sand Head area, differences between the 2012 and 2014 surveys are shown in the surface difference plot at [Annex B](#).
- 4.2 Over recent years, Long Sand Head has undergone significant expansion, and this trend has continued albeit at a reduced rate. Between the 2013 and 2014 surveys, the 10 metre contour has extended around 190 metres north-eastwards as shown in [Annex C](#).
- 4.3 In the east of the area, depths have shoaled by up to around 0.6 metre between the 2012 and 2014 surveys.
- 4.4 Along the Trinity Deep Water track, the minimum depth is little changed, deepening from 13.6 metres to 13.7 metres. A sandwave to the north of the track has shoaled from 12.9 metres to 12.5 metres, while a sandwave to the south of the track has the same minimum depth of 12.5 metres.

Sunk Deep Water Track

- 4.5 Differences between the 2013 and 2014 surveys are shown in the surface difference plot at Annex A, with differences between the 2012 and 2014 surveys shown at Annex B.
- 4.6 In the south of the area, the shoalest depth close to the Sunk Deep Water track is 15.6 metres in the 2014 survey (Figure 1), with 15.9 metres found in the vicinity in the 2013 survey. Further along the Deep Water track, 2,600 metres to the southwest of this focused area there is a charted depth of 15.7 metres in an area that has been dredged to provide general depths of 16 metres.

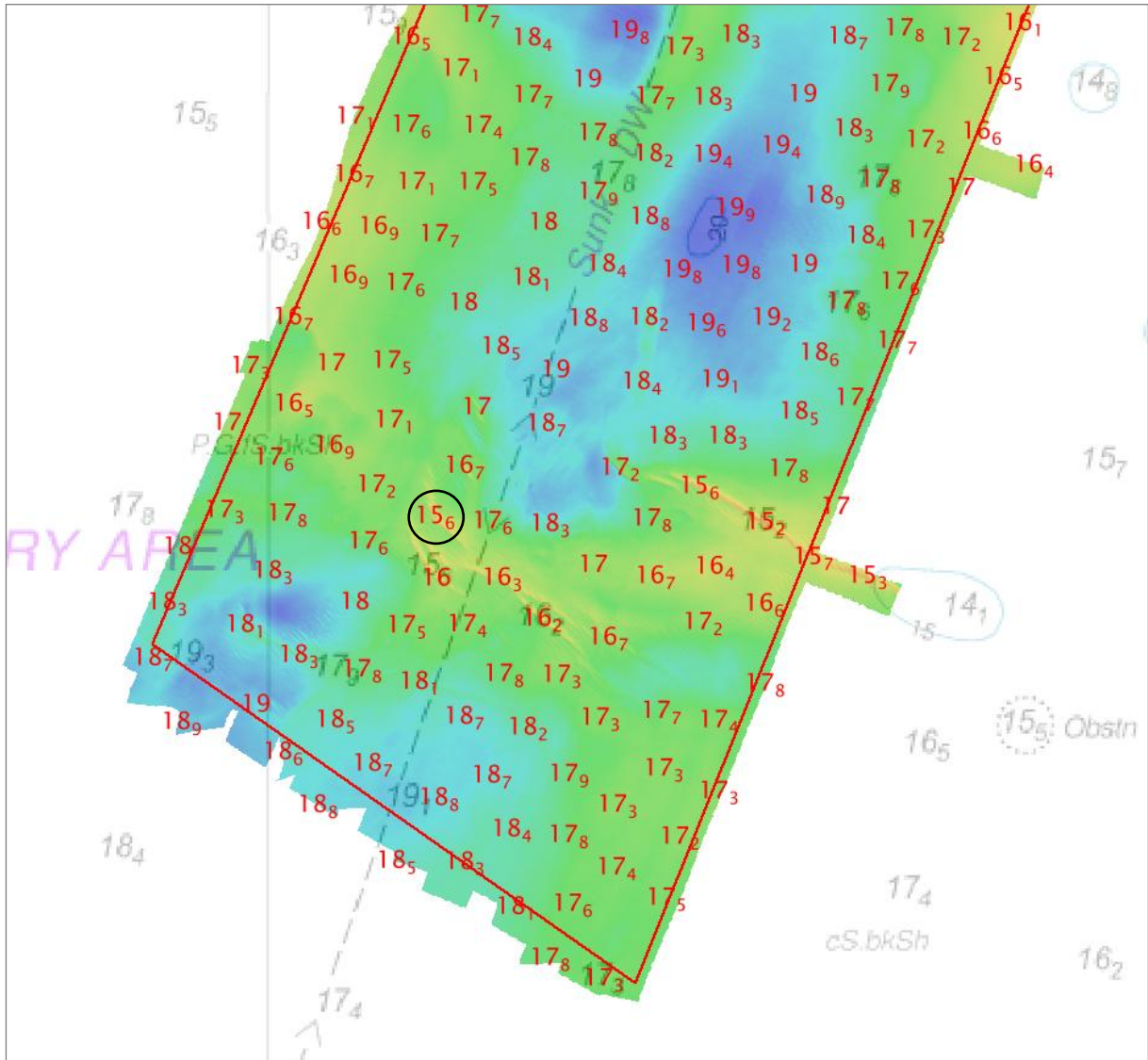


Figure 1: Selected depths from the 2014 survey in the south of the area

- 4.7 In the north of the area, a depth of 15.3 metres is found close east of Dynamo buoy (Figure 2), just outside the focused limits that were in effect at the time of the 2013 survey.

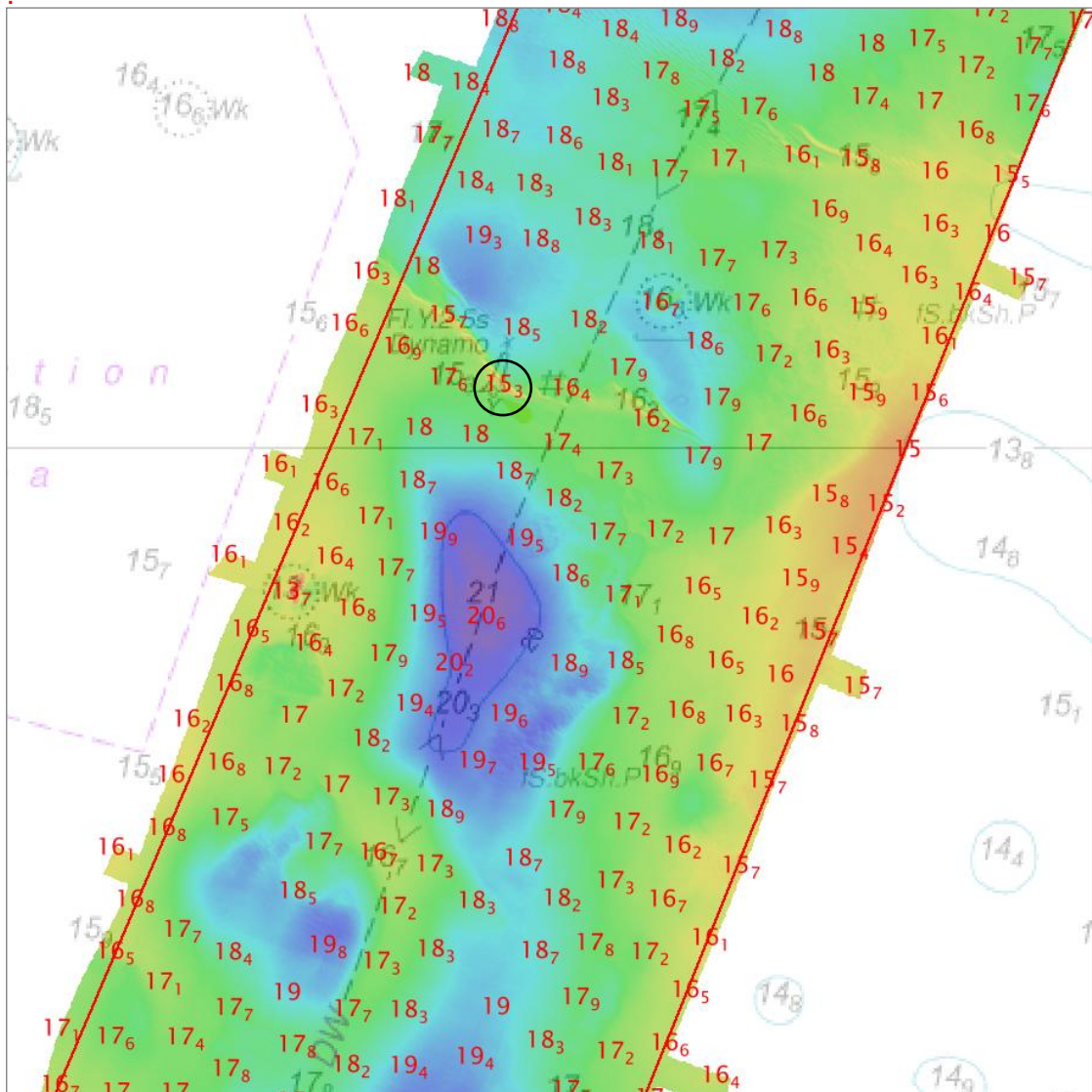
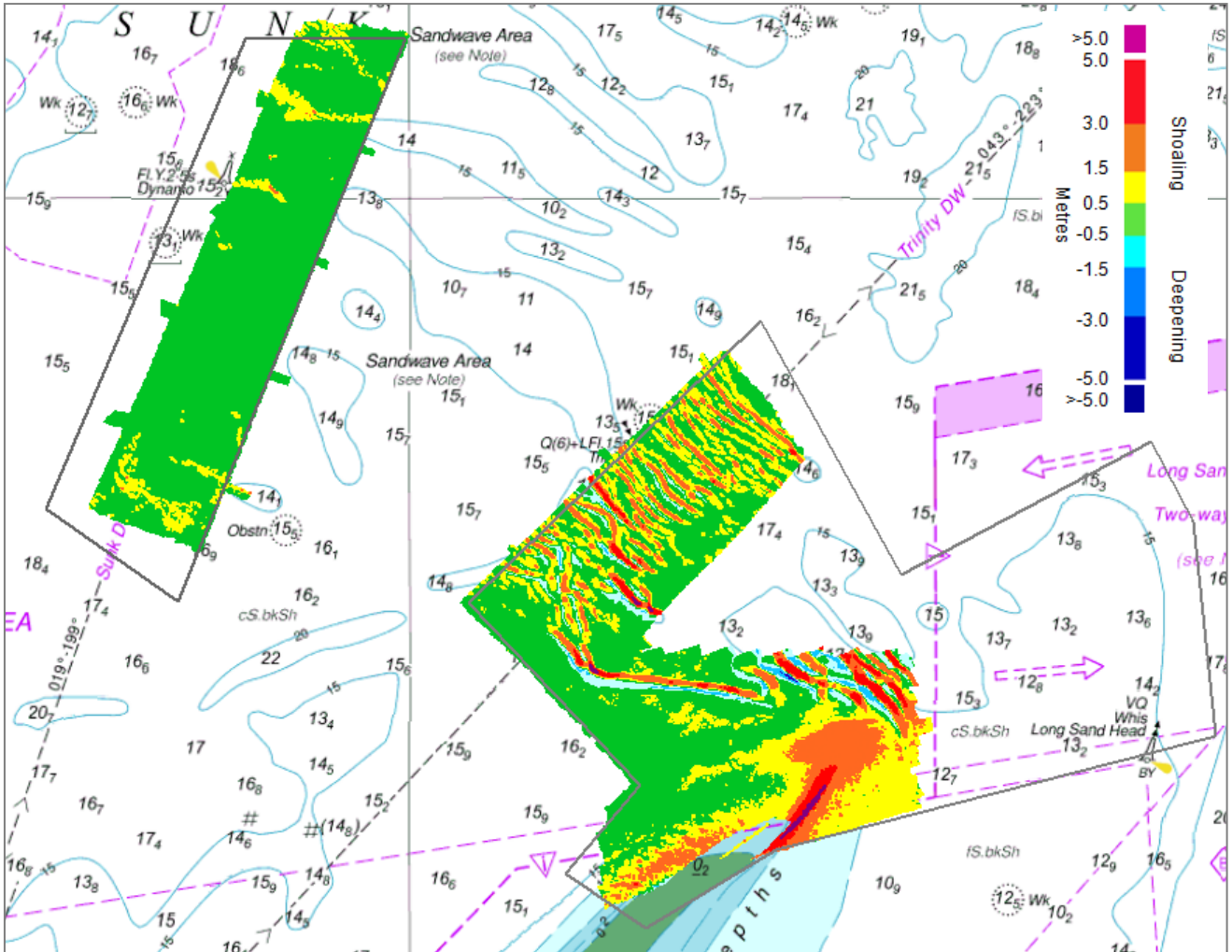


Figure 2: Selected depths from the 2014 survey in the north of the area

5 Recommendations

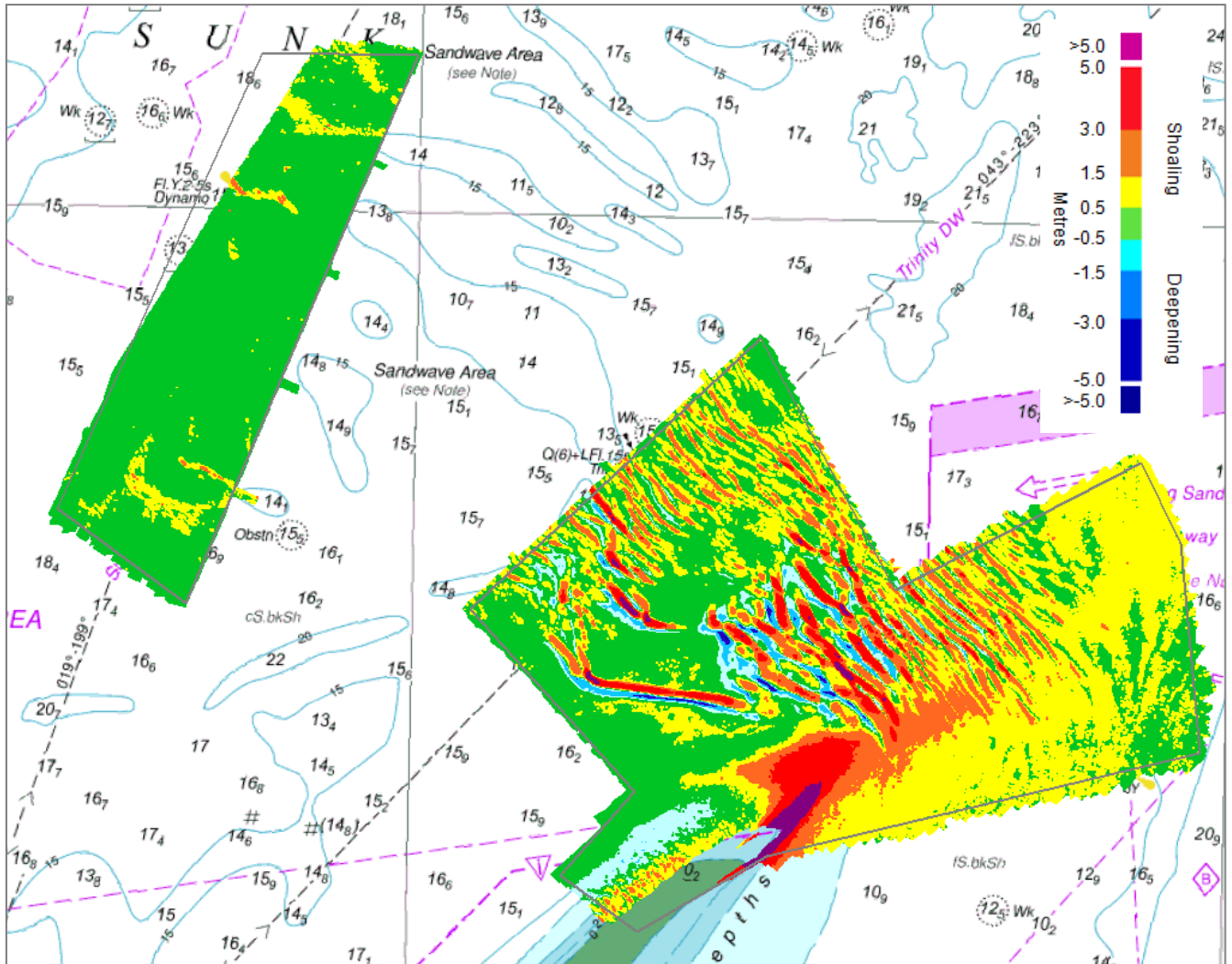
- 5.1 It is recommended that the limits and frequency of the annual focused survey areas remain unchanged.

SURFACE DIFFERENCE COMPARISONS
2013 – 2014 SURVEYS



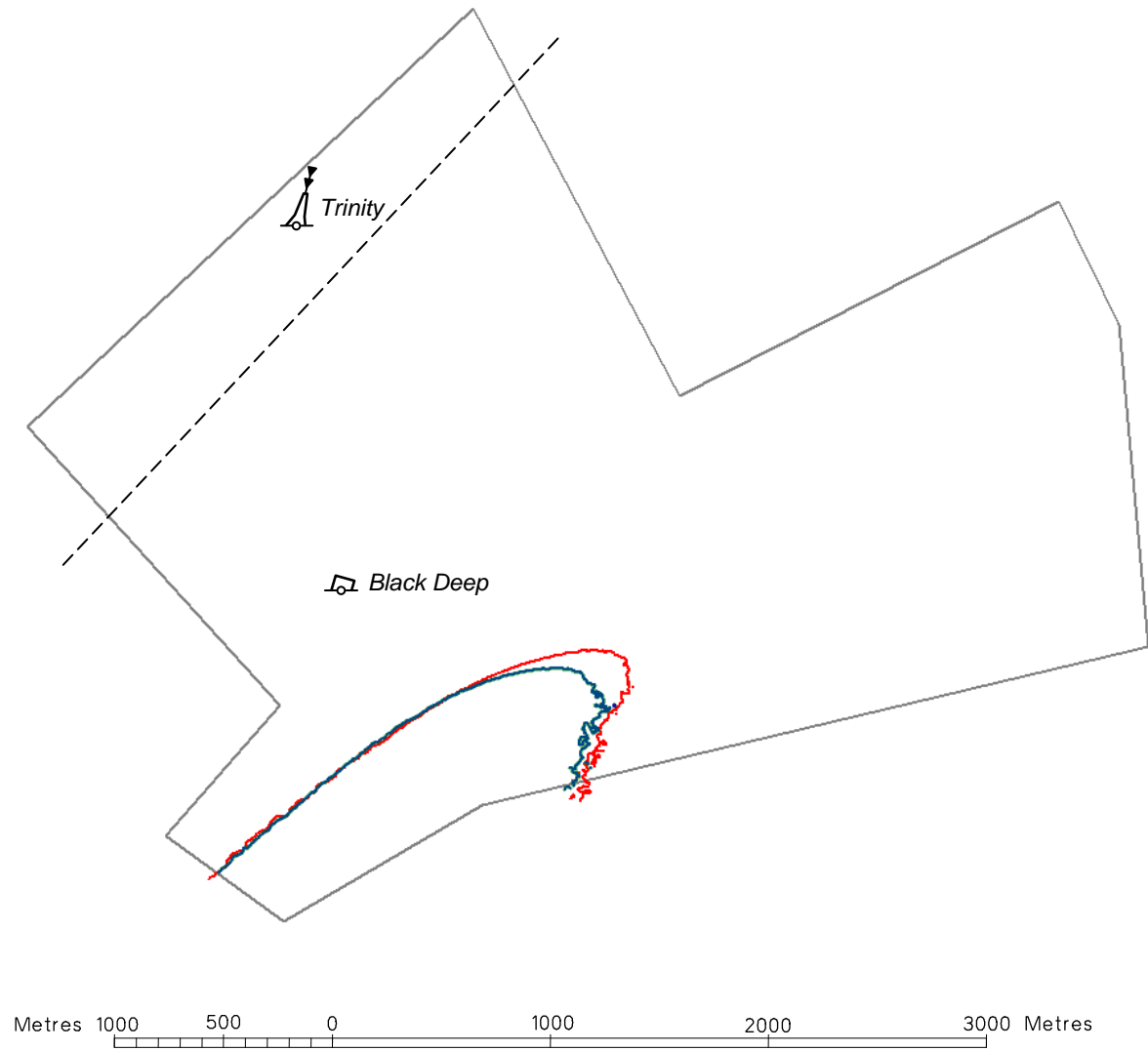
Metres 1000 500 0 1000 2000 3000 Metres



SURFACE DIFFERENCE COMPARISONS 2012 – 2014 SURVEYS



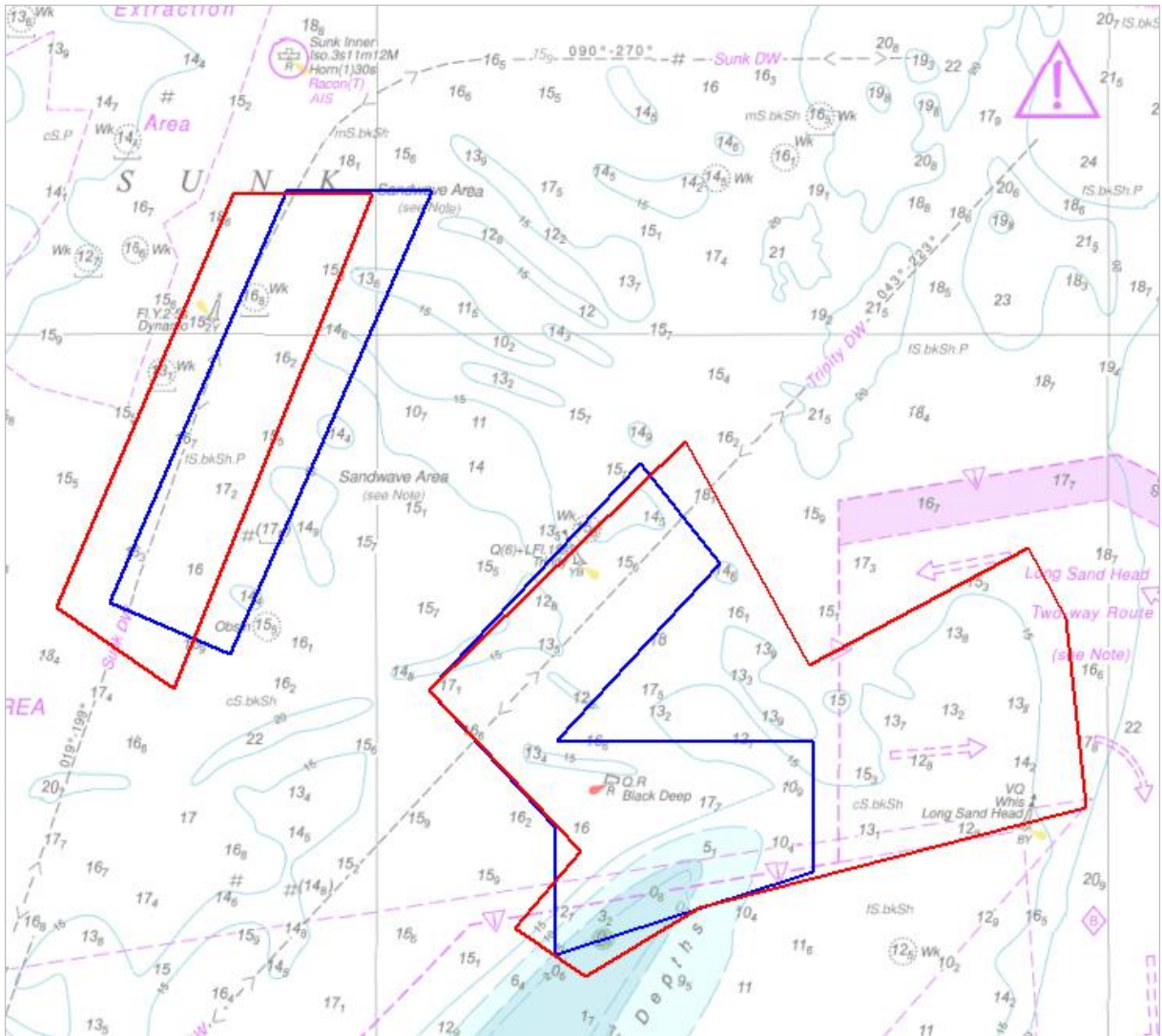
Metres 1000 500 0 1000 2000 3000 Metres



LONG SAND HEAD 10 METRE CONTOUR COMPARISON



	2014
	2013

CHANGES TO THE FOCUSED ANNUAL LIMITS
APPROVED BY THE CIVIL HYDROGRAPHY WORKING GROUP
FOLLOWING ANALYSIS OF THE 2012 SURVEY



	Current approved Annual Focused Limits
	2013 Survey Limits