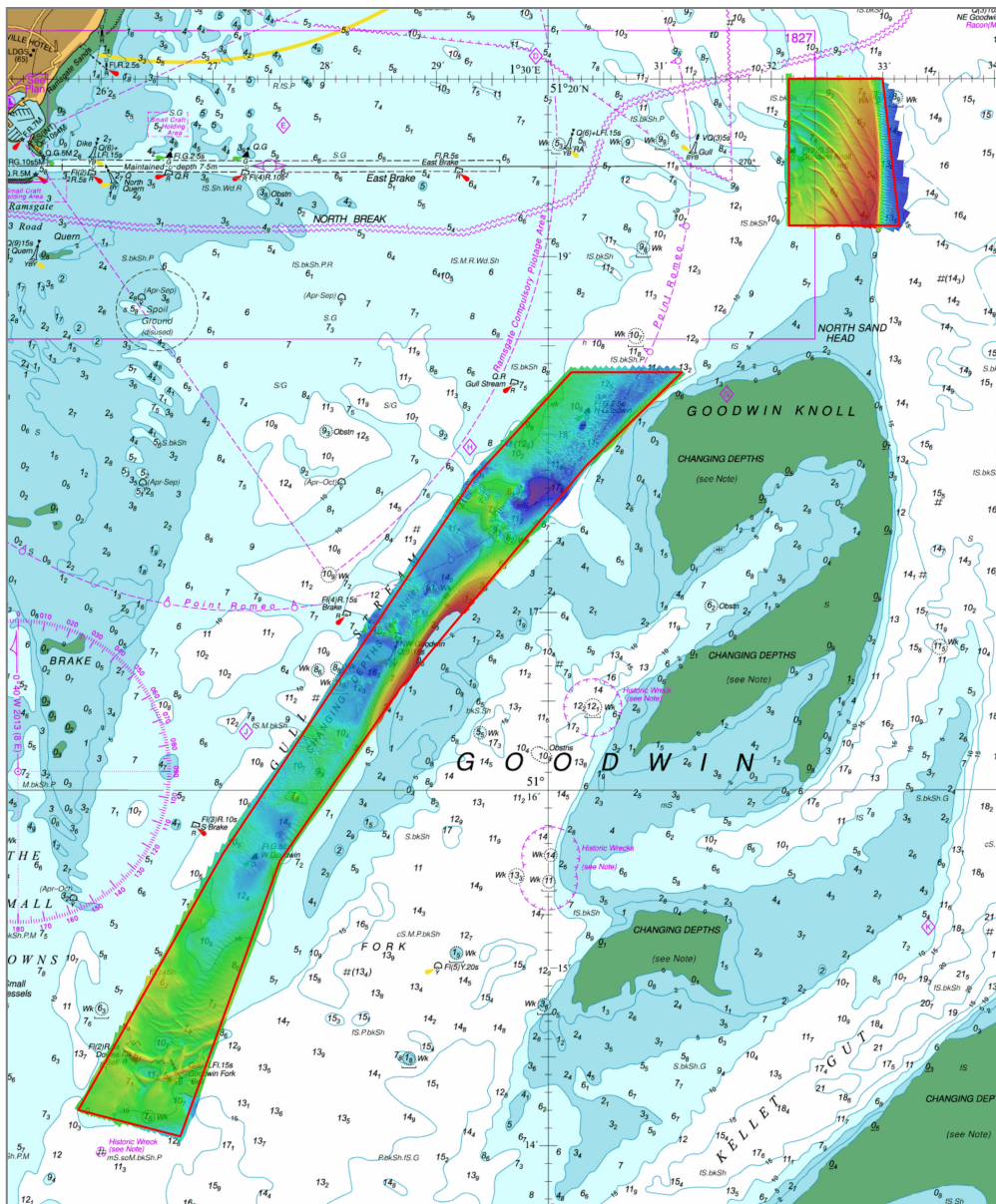




GOODWIN SANDS

GULL STREAM & NORTH SAND HEAD

SUMMARY ASSESSMENT ON THE ANALYSIS OF ROUTINE RESURVEY AREA GS2 FROM THE 2012 SURVEY



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Summary Assessment GS2/2012

A summary assessment of the 2012 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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GULL STREAM & NORTH SAND HEAD, 2012

1 Introduction

- 1.1 GS2 is fully re-surveyed every six years, within which two focused areas are surveyed every three years, the limits of which are 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 GS2 and compares it against the previous survey. For more details on the area, including long term changes, the more detailed report on the last full survey (conducted in 2009) should be consulted.

2 Description of the Areas

- 2.1 Gull Stream (Area A) covers sandwaves at the southern entrance to the channel and the area to the north covering the western limit of Goodwin Sands.
- 2.2 North Sand Head (Area B) covers a region in the north of Goodwin Sands crossed by vessels en-route to Ramsgate.
- 2.3 Vessels drawing up to 7.4 metres are known to use the Gull Stream. Ferries drawing up to 5.3 metres routinely crossed the North Sand Head area en-route between Ramsgate and Oostende. However, in late April 2013 this service was suspended following the operator entering administration.

3 Survey Data

- 3.1 The 2009 survey was conducted from 23 July to 1 September and covered the whole of the Goodwin Sands into the 2 metre contour. Weather in the area was generally good throughout the survey period, with slight to smooth sea states. The 2012 survey was conducted from 6 to 18 December in conjunction with other areas. Sea States 2 to 4 were experienced during surveying, but with interruptions in survey work during the period due to weather. In both surveys, the Vertical Offshore Reference Frame (VORF) and GPS heighting were used to reduce depths to Chart Datum.

4 Changes since the 2009 Survey

- 4.1 Changes are shown in the Surface Difference plot at [Annex A](#).

Gull Stream

- 4.2 There are two main sandwaves at the southern entrance to the Gull Stream. The western sandwave has migrated 65 metres to the north and shoaled from 6.4 to 5.9 metres. The minimum depth over the eastern sandwave has increased slightly, but west of Goodwin Fork buoy has shoaled from 6.1 to 5.8 metres as shown in figure 1.

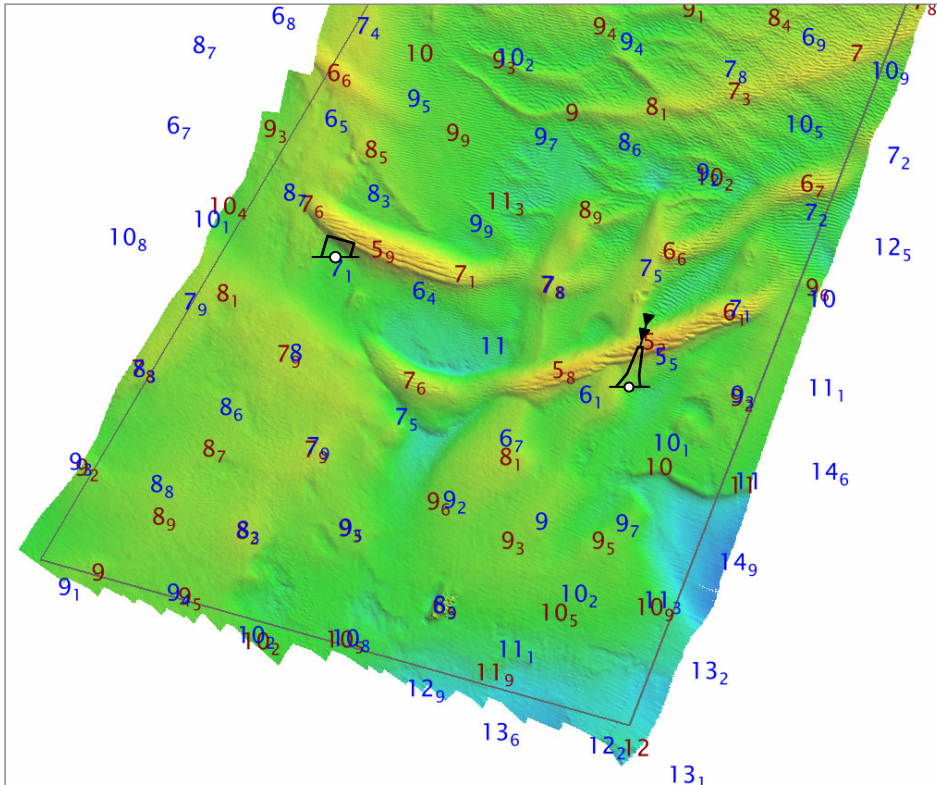


Figure 1: Southern entrance to the Gull Stream (2009 depths Blue, 2012 depths Red & 2012 surface)

4.3 In the region of Northwest Goodwin and North Goodwin buoys, the bank has expanded westwards towards the channel, with the 10 metre contour moving over 100 metres in the cross-section at figure 2.

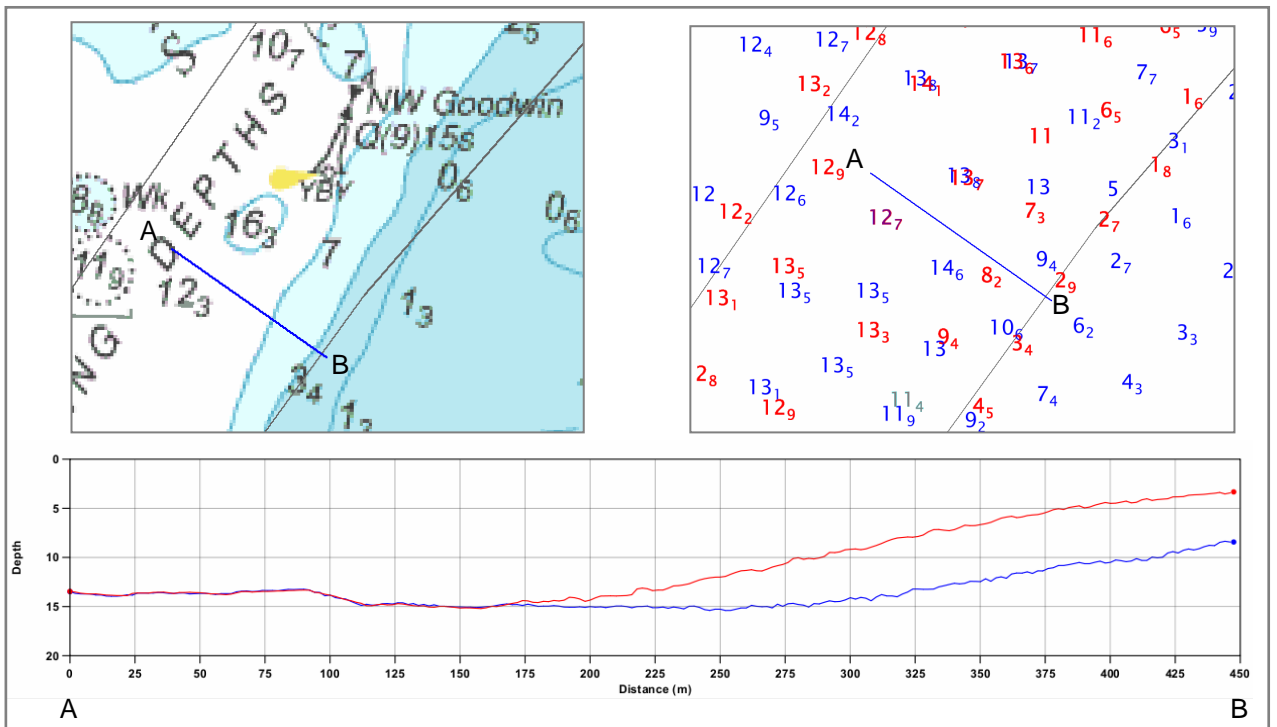


Figure 2: Cross-section showing the expansion of Goodwin Sands (2009 Blue, 2012 Red)

North Sand Head

- 4.4 Changes shown in the Surface Difference plot at [Annex A](#) reflect sandwave migration and a slight easterly extension of the bank, as shown in figure 3.

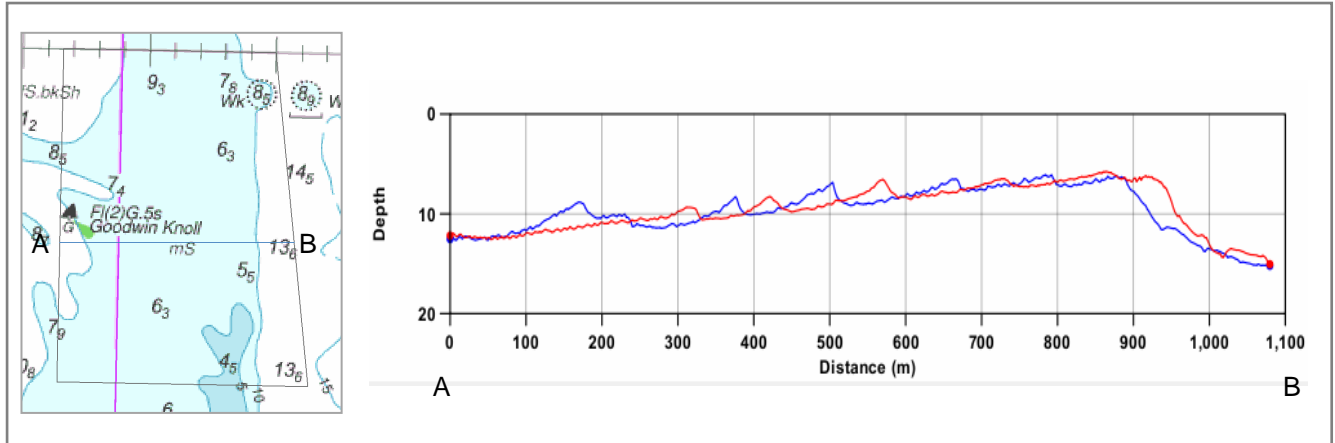


Figure 3: Expansion of Goodwin Sands (2009 Blue, 2012 Red)

- 4.5 The 5 metre contour marking a low elevation sandwave in the south of the area has reduced in extent in the 2012 survey.

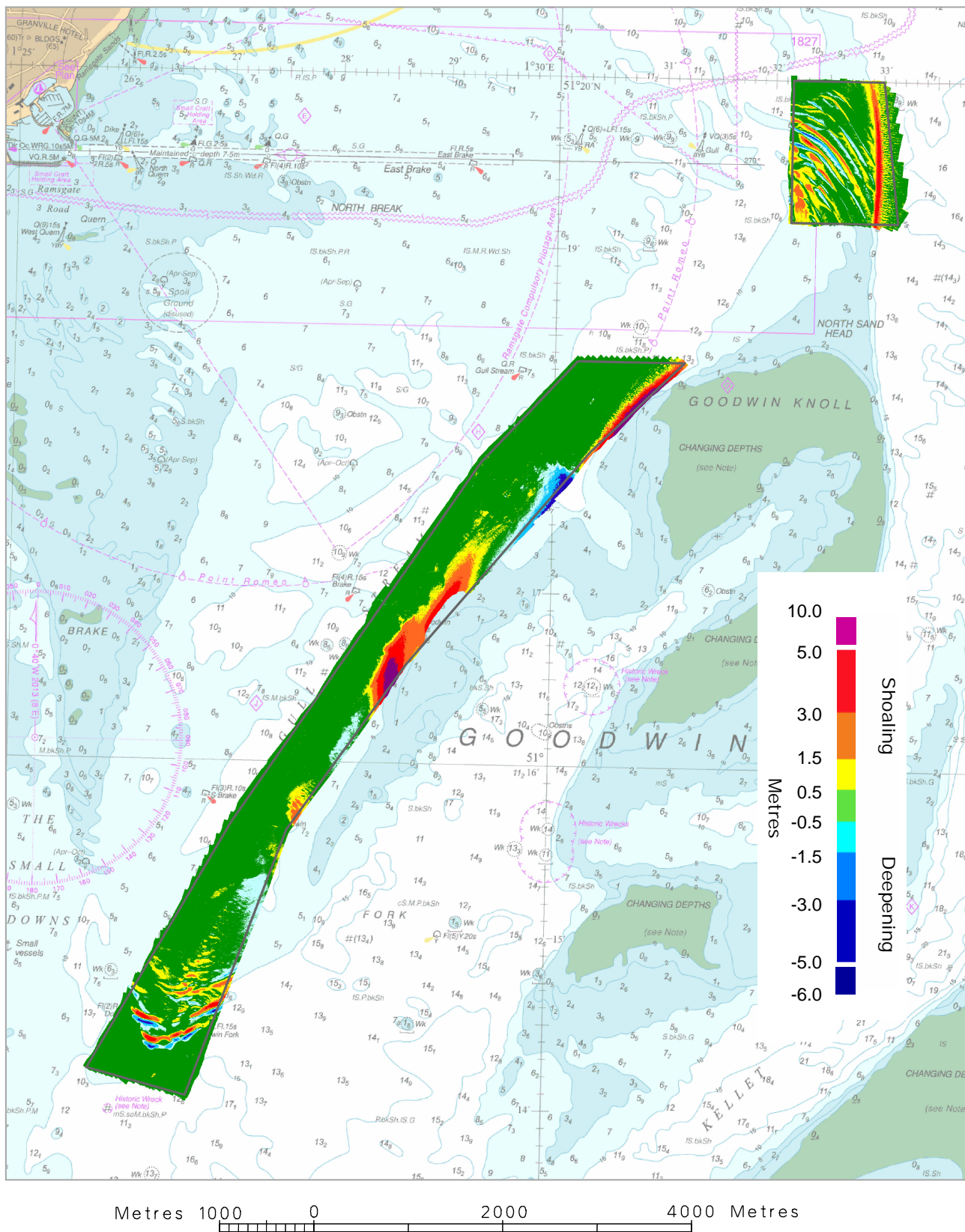
5 Implications for Shipping

- 5.1 The shoal areas are adequately marked by the current buoyage, and changes are of no direct concern to the vessels keeping to the buoyed route.
- 5.2 Migration of Goodwin Sands towards the Gull Stream would be of concern should it continue.

6 Recommendations

- 6.1 Although the main part of the Gull Stream is stable and devoid of significant mobile features, the southern entrance and eastern side, delimited by Goodwin Sands, should continue to be resurveyed every 3 years. The limits should be focused further to remove the relatively stable areas of the Gull Stream, as shown in [Annex B](#).
- 6.2 The resurveying of North Sand Head as a 3 year focused area should continue if shipping use of the area justifies it. A review of vessel operations out of Ramsgate, in particular use of the Ro-Ro terminals, should be made when analysing the next full survey due in 2015.

SURFACE DIFFERENCE PLOT SHOWING BATHYMETRIC CHANGES BETWEEN THE 2009 AND 2012 SURVEYS



PROPOSED REVISED FOCUS LIMITS FOR THE GULL STREAM

