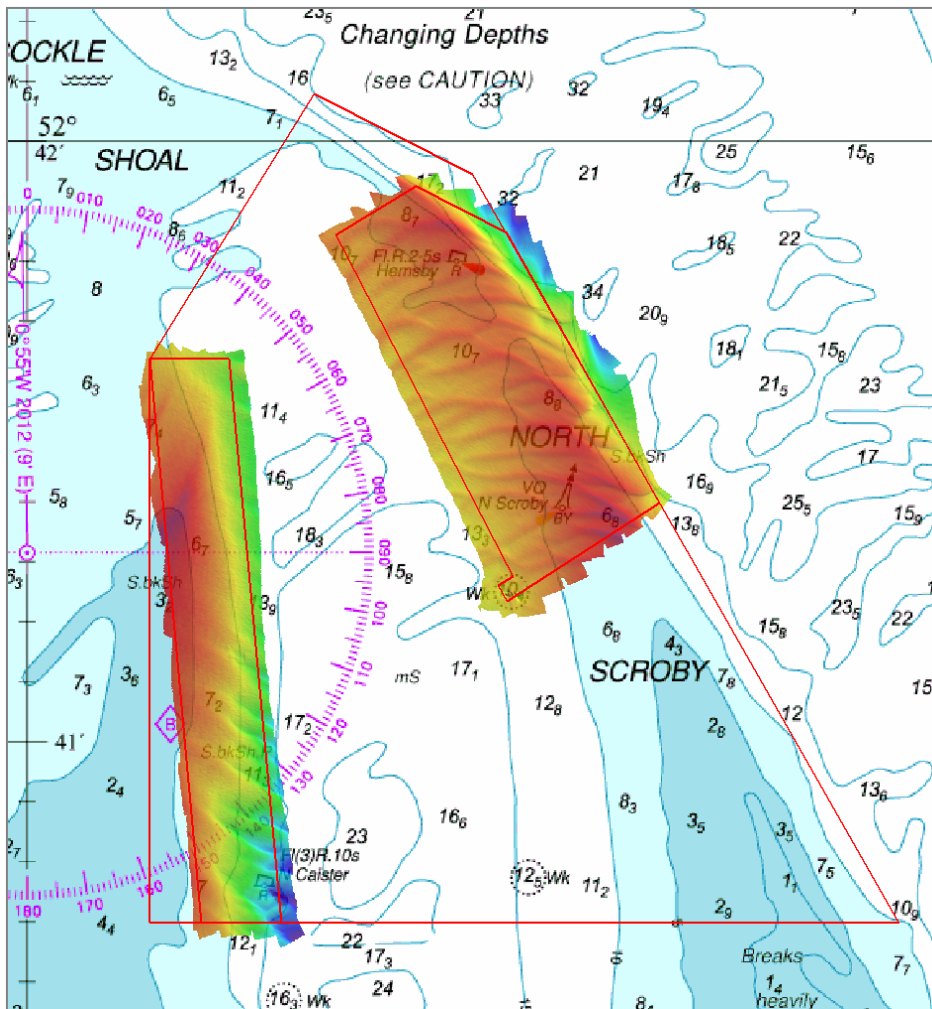




# EAST ANGLIA

## COCKLE SHOAL

### SUMMARY ASSESSMENT ON THE ANALYSIS OF ROUTINE RESURVEY AREA EA3 FROM THE 2012 SURVEY



## EAST ANGLIA

## COCKLE SHOAL

### Summary Assessment EA3/2012

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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## COCKLE SHOAL, 2012

### 1 Introduction

- 1.1 The full area of EA3 is re-surveyed every 3 years; within that area there are two focused areas which 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 EA3 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 3-year survey (conducted in 2011) should be consulted.

### 2 Description of the Areas

- 2.1 One area covers the buoyed entrance into Caister Road, which forms the controlling depth for vessels using the route; the entrance has gradually increased in depth over several years, but this increase in depth has slowed in recent years. The other area covers the eastern limit of Caister Shoal, which in the northern part of the focused area has migrated eastwards over the same period.
- 2.2 Shipping generally approaches the buoyed entrance from the north and northeast, much of it passing close to the south of Hemsby buoy. Vessels drawing up to 7.8 metres are known to use Caister Road.

### 3 Survey Data

- 3.1 The 2012 survey was conducted over 3 days from 20 September to 4 October. The 2011 survey was conducted from 14 to 16 May. Good weather conditions were generally experienced during both periods, but with Sea States 2 to 4 experienced during the 2012 survey. The Vertical Offshore Reference Frame (VORF) and GPS heighting were used to reduce depths to Chart Datum in both surveys.

### 4 Changes since the 2011 Survey

- 4.1 The surface difference plot at [Annex A](#) shows the changes in depth that have occurred since last surveyed.

#### *North Scroby*

- 4.2 The focused area monitors the eastward migration of the bank. The bank has migrated north-eastwards by approximately 80 metres since the 2011 survey. To the north of the buoyed entrance, depths steadily increased from 2004 to 2009, with this and more recent reduced change shown in figure 1. To the south of Hemsby buoy, depths are broadly similar to those found in 2011, but with a slight reduction in the extent of the 10 metre contour, as shown in [Annex B](#).

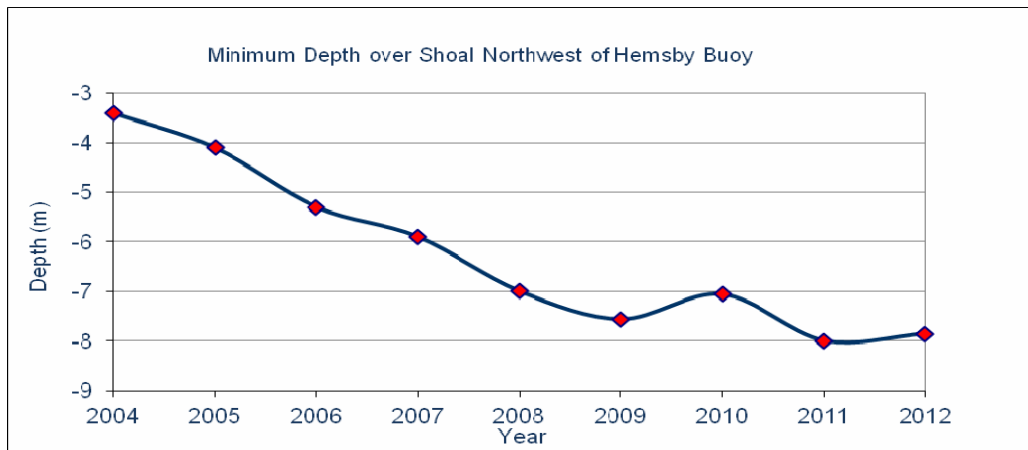


Figure 1: Change in minimum depth close northwest of Hemsby Buoy

4.3 North of North Scroby buoy, the 10 metre contour has extended northwards by 120 metres, with a depth of 9.3 metres falling just outside the charted 10 metre contour; to the south of this depths remain broadly similar.

4.4 Sounding plots produced from the 2011 and 2012 surveys are at [Annex C](#).

#### ***Caister Shoal***

4.5 The focused area monitors the eastward migration of the bank. In the north of the focused area, the 10 metre contour has migrated eastwards by up to 160 metres since the 2011 survey, as shown in [Annex B](#). In the south of the area, close to North Caister buoy, the contour remains in broadly the same position.

### **5 Implications for Shipping**

5.1 The buoyed entrance to Caister Road continues to provide relatively deep water for vessels entering the channel, with a minimum depth of 8.1 metres between Hemsby and North Scroby buoys.

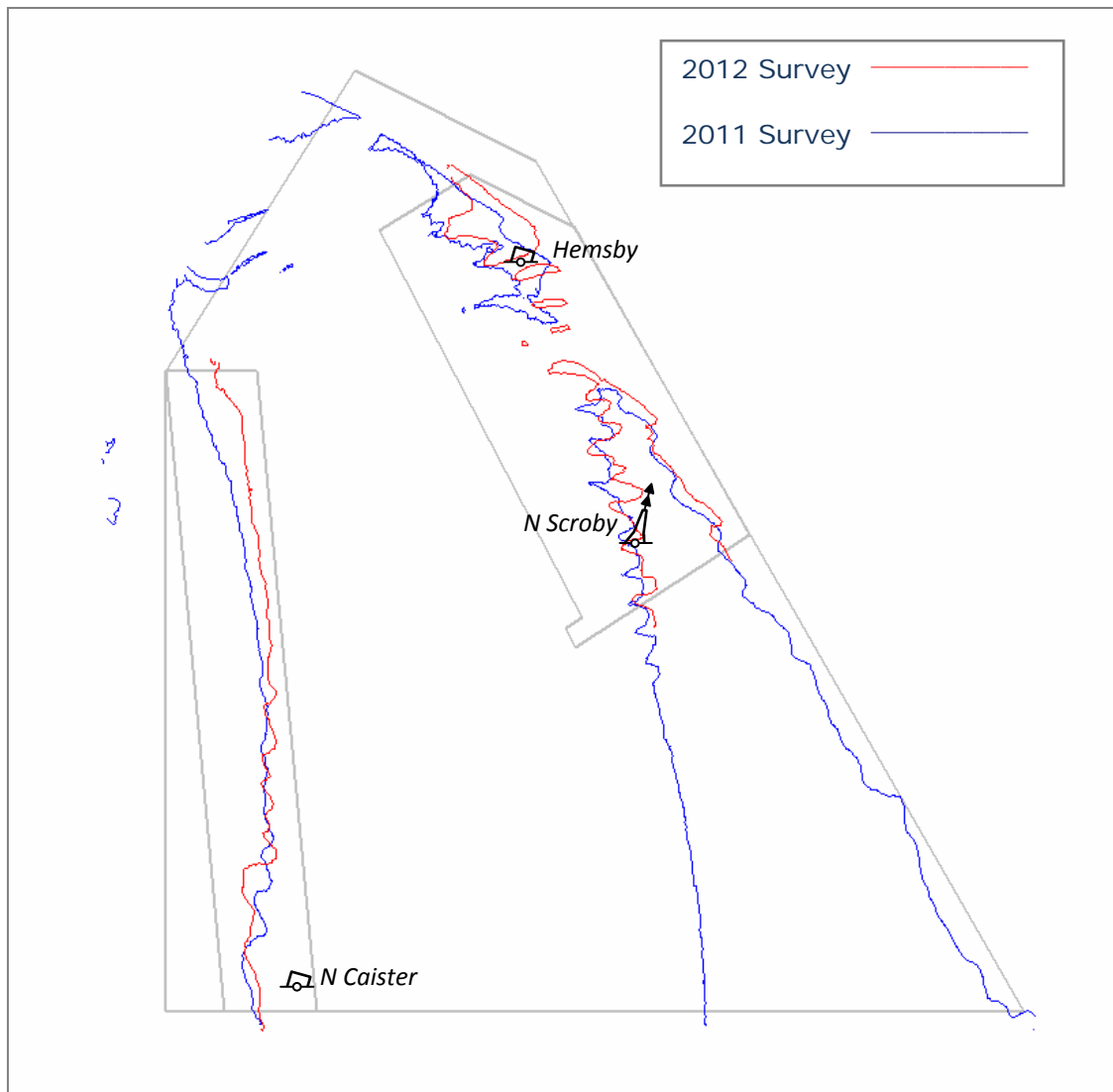
### **6 Recommendations**

6.1 The annual focused areas should be retained, but with revised limits to reflect changes in the position of the 10 metre contour, as shown in [Annex D](#).

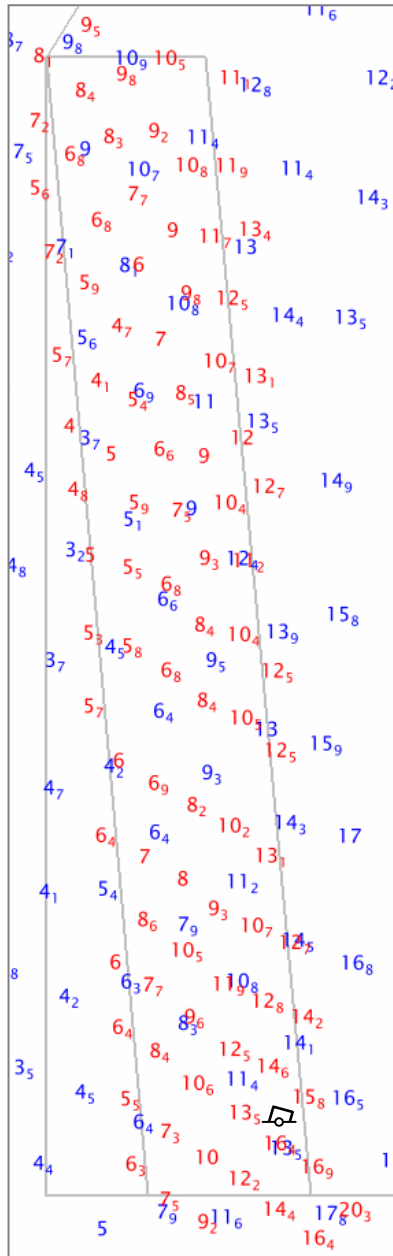
6.2 The charted wreck currently covered by focused area B remains unchanged from the 2011 survey and is considered adequately monitored by the full 3-year survey of area EA3.



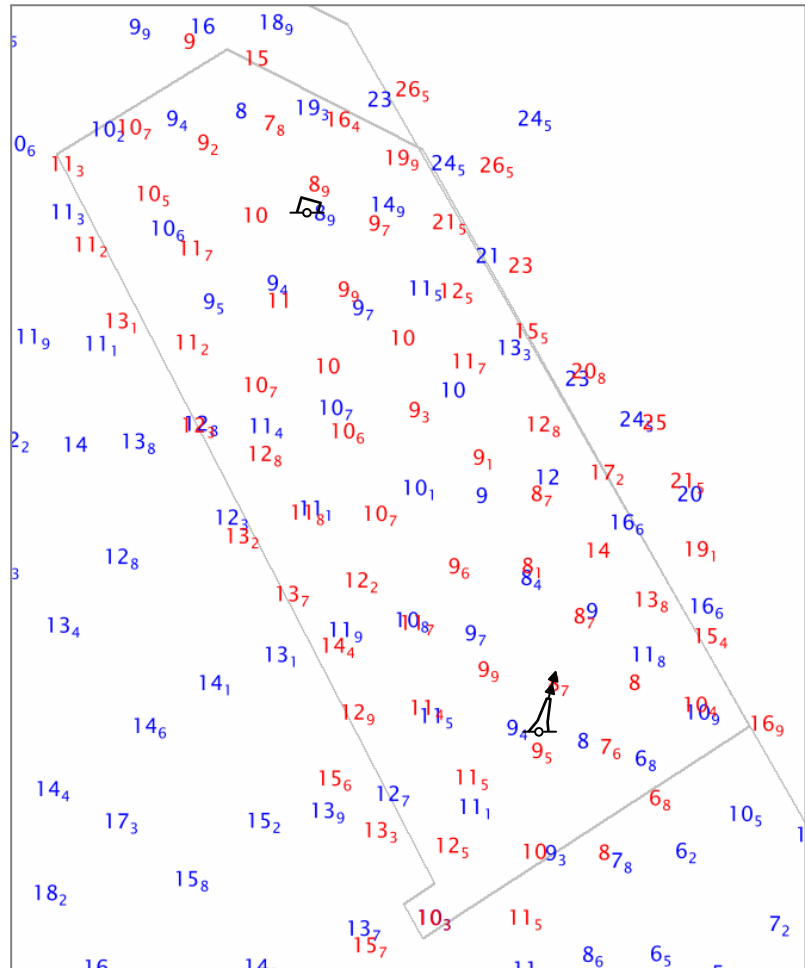
COMPOSITE DIAGRAM OF THE 10 METRE CONTOUR  
FROM THE 2009 AND 2010 SURVEYS



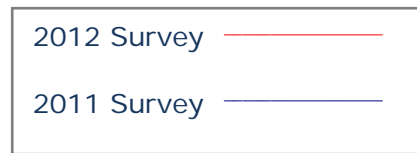
SELECTED DEPTH PLOTS  
FROM THE 2011 AND 2012 SURVEYS



Area A



Area B



PROPOSED REVISED SURVEY LIMITS

