

**CENTRE FOR ENVIRONMENT, FISHERIES AND AQUACULTURE SCIENCE  
LOWESTOFT LABORATORY, SUFFOLK, NR33 0HT**

**2016 RESEARCH VESSEL PROGRAMME**

**REPORT: Cefas Endeavour      Survey: CEND 1X - 2016**

**STAFF:**

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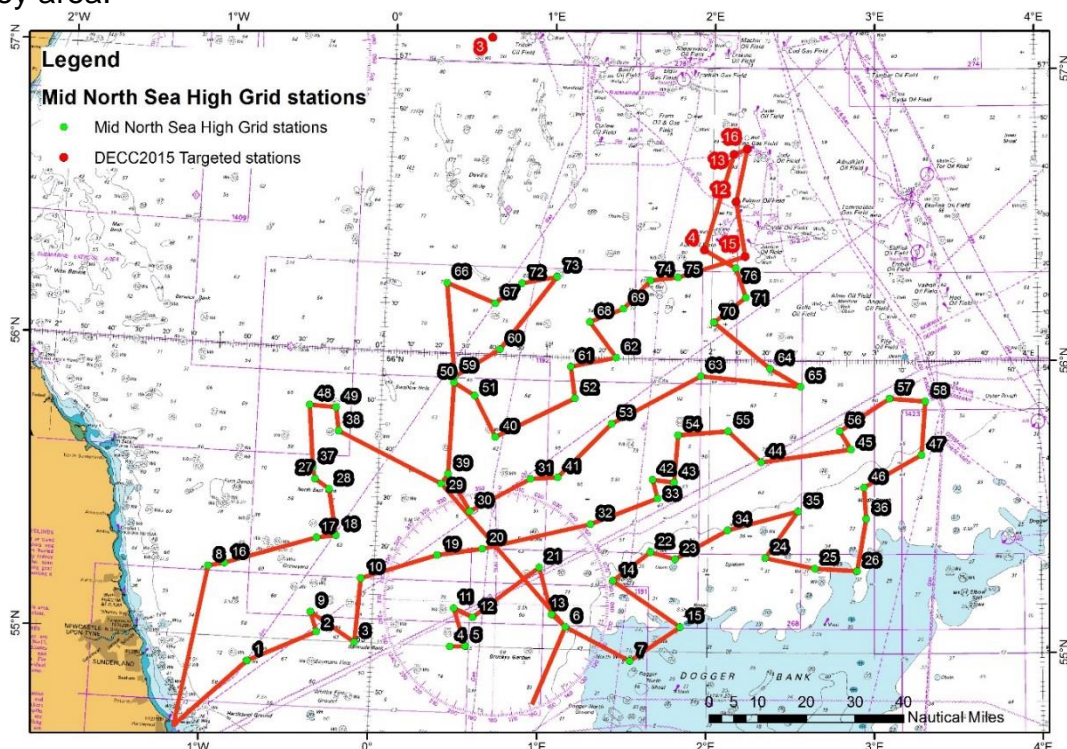
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**DURATION: 8 days (16<sup>th</sup> – 24<sup>th</sup> January 2016)**

**LOCATION: Central North Sea**

**AIMS:**

1. To sample the stratified random survey stations in the Mid North Sea High grid. The work is to be undertaken to assess long-term trends in contaminant persistence and biological recovery of the seabed around a number of established fields.
2. To undertake sampling work at the DECC 2015 Targeted Sampling stations using NIOZ corer, camera sledge, anchor dredge and 2m beam trawl.
3. To collect video data at a number of stations across the Mid North Sea High survey area.



## **NARRATIVE:**

The RV Cefas Endeavour departed Lowestoft at 14:00 on the 16th January 2016 and transited North to the Mid North Sea High survey grid. The sea state during transit was moderate, making the journey uncomfortable at times.

On arrival at the survey site sampling commenced at 08:00 on Sunday 17th January 2016. Sampling continued on Monday 18th January 2016 in slightly worse weather conditions. On Tuesday 19th January 2016, after completing half of the Day grab stations, the vessel transited to Hartlepool for a crew shore transfer due to medical reasons. On return to the survey area, Day grab sampling continued until late on Wednesday 20th January 2016. Around lunchtime on Wednesday 20th January 2016, the camera sledge was deployed at station 53 to test and fine tune the system prior to deployment the next day. Due to the weather forecast showing potentially unsuitable weather conditions for the NIOZ Box corer on Friday 22nd January 2016, the survey track was modified, to allow NIOZ box core sampling to take place on Thursday 21st January 2016, where weather conditions were expected to be more suitable. NIOZ box coring started at 23:00 on Wednesday 20th January 2016 at station ADD\_4 as part of objective 2 work. This was followed by a camera sledge tow and 2m beam trawl. The vessel then proceeded to the additional stations 13, 16, 12 and 15, where a mix of camera sledge and 2m beam trawl or camera sledge and anchor dredge data were collected. In addition to the original requirements, 2 NIOZ cores were collected for quantitative faunal analysis at station ADD\_12. An anchor dredge was also deployed at station ADD\_15 in an attempt to have more success to collect live *Modiolus*, unfortunately without success.

The survey then proceeded to collect day grab samples at the remaining station on Thursday 21st and Friday 22nd January 2016. At 06:00 on Friday 22nd January 2016 survey operations were suspended due to rapidly deteriorating sea conditions. Shortly afterwards the vessel experienced a power blackout which resulted in the loss of steering resulting in the vessel becoming beam on to the weather. This rapidly made conditions onboard rapidly very uncomfortable and efforts were made to secure all remaining loose items of equipment and samples. It is believed no damage to personnel, equipment and samples were experienced. By 15:45 on Friday 22nd January 2016 conditions had improved to allow continuation of Day Grab sampling. Big seas were still experienced by the Day Grab could be deployed safely. To minimise the likelihood of the grab firing whilst being lowered in the water column, and to improve sampling efficiency, additional lead weight was added to the grab, which proved very successful whilst operating in these weather conditions. Day grab sampling completed by midnight on Friday 22nd January 2016. Next the vessel headed south to collect video tows at station 59, 50, 39 and 29 using a camera sledge. On completion, the vessel made a further and successful attempt to collect a PSA, metals and organics sample at station MNSH\_006, which previously only resulted in a partial sample. At 12:00 on Saturday 23rd January 2016 the vessel set sail for Lowestoft. The vessel arrived off Lowestoft and picked up the pilot at 08:00 on Sunday 24th January 2016. The vessel was alongside the Cefas Quay at Lowestoft at 09:00. Equipment and sample demobilisation started and was completed at 12:00.

## **RESULTS:**

The survey was successful in meeting the majority of the survey aims, which is a real achievement considering the location and time of year the survey was undertaken.

All 76 stations of survey aim 1 were successfully sampled using a Day Grab. Samples for chemical and faunal analysis were collected and preserved for further analysis on land. Five out of 6 stations in relation to survey aim 2 were visited and all necessary data collected. The six station was not visited as it was a long way away from the main grid, and due to the weather downtime, it was no longer possible to visit this station. Additional sampling was however undertaken at 2 of these stations. Finally, 5 stations were sampled with the camera sledge to meet survey aim 3.

All survey data were quality checked onboard and uploaded in line with Cefas data management requirements.

Koen Vanstaen  
Scientist In Charge  
24/01/2016

SEEN IN DRAFT

Master: T. Byrne  
Senior Fishing Mate: R. Reynolds

INITIALLED:

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