

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

2017 RESEARCH VESSEL PROGRAMME

PROGRAMME: RV CEFAS ENDEAVOUR: SURVEY C End 01 - 2017

LOCATION: North Sea & Eastern Channel

AIMS:

To carry out an integrated monitoring pilot survey of two strata (identified by the workshop to plan an integrated monitoring Programme in the North Sea (WKPIMP)) which cover the relevant UK Charting Progress 2 monitoring area of the North Sea & Eastern Channel (Figure 1). These will include a number of repeat stations (sampled across the UK portion of the Dogger Bank SCI during a multidisciplinary survey conducted in July 2016) (Figure 2). The survey will involve the deployment of a standardised GOV/4m beam trawl, 2m beam trawl, water column profiler, grabs/cores (Day Grab, 0.1m² Hamon Grab, NIOZ core) and seabed imagery systems (sledge &/or Drop Camera). Station selection will be based on a combination of systematic and random stratified approaches, with gears deployed at each station or a subset of stations as appropriate.

AIMS:

- 1) Catches from the trawls will be processed to obtain information on:
 - Distribution, size composition and relative abundance of fish, cephalopods, and benthic invertebrates.
 - Age-length distribution of selected species.
 - Biological parameters of selected species.
- 2) Collect information on:
 - a) Distribution of sedimentary habitats (including biogeochemical parameters as appropriate);
 - b) Distribution of macrobenthos (infaunal and epifaunal);
 - c) Distribution and classification of anthropogenic debris;
 - d) Distribution of fish and invertebrate species in relation to their environment.
- 3) To collect full depth, conductivity, temperature and depth profiles at each trawl station alongside surface and near-bottom water samples using a Niskin with ESM2 logger.
- 4) To continuously log sub-surface (3m) salinity, temperature, fluorometry and other environmental data using the 'Ferrybox'.
- 5) To record details of surface sightings of any marine mammals, sea turtles and large pelagic fish, and record observations on jellyfish aggregations.
- 6) To collect water alkalinity and dissolved inorganic carbon (DIC) and nutrient samples.
- 7) To collect plankton samples (phytoplankton and zooplankton).

PLAN:

RV Cefas Endeavour (CEND) will sail from Lowestoft on the 2rd January 2017. En-route to the survey area, a shake-down tow will be carried out at a known clean tow position in order to fully test all survey equipment, gear and software systems including testing of EDC multi-gear functionality. Upon arrival at the survey area, CEND will initially embark on surveying the planned stations across the identified North Sea and Eastern Channel strata (UK waters only). A survey day will comprise a number of CTD profiling stations using ESM2 logger and Niskin sampler along with a series of randomly selected &/or systematic trawl stations where the trawl will be deployed according to the IBTS sampling protocol. 2m beam trawl samples, grab/core samples, water samples and plankton samples will also be collected at a subset of stations as appropriate. Upon completion of the survey, CEND will dock back in Lowestoft on the 16th January 2017 and unloading of equipment will be carried out the same day.

Joanna Murray/Ian Holmes
Scientist-in-charge
21st November 2017

DISTRIBUTION:

Survey personnel (including SICs)
Cefas Trim
B Salter (P&O)
Master (Cefas Endeavour)
Marine Management Organisation (MMO)
Crown Estate

Figure 1. WKPIMP strata planned for survey during CEND 01/17 (UK Dogger Bank and UK South Offshore).

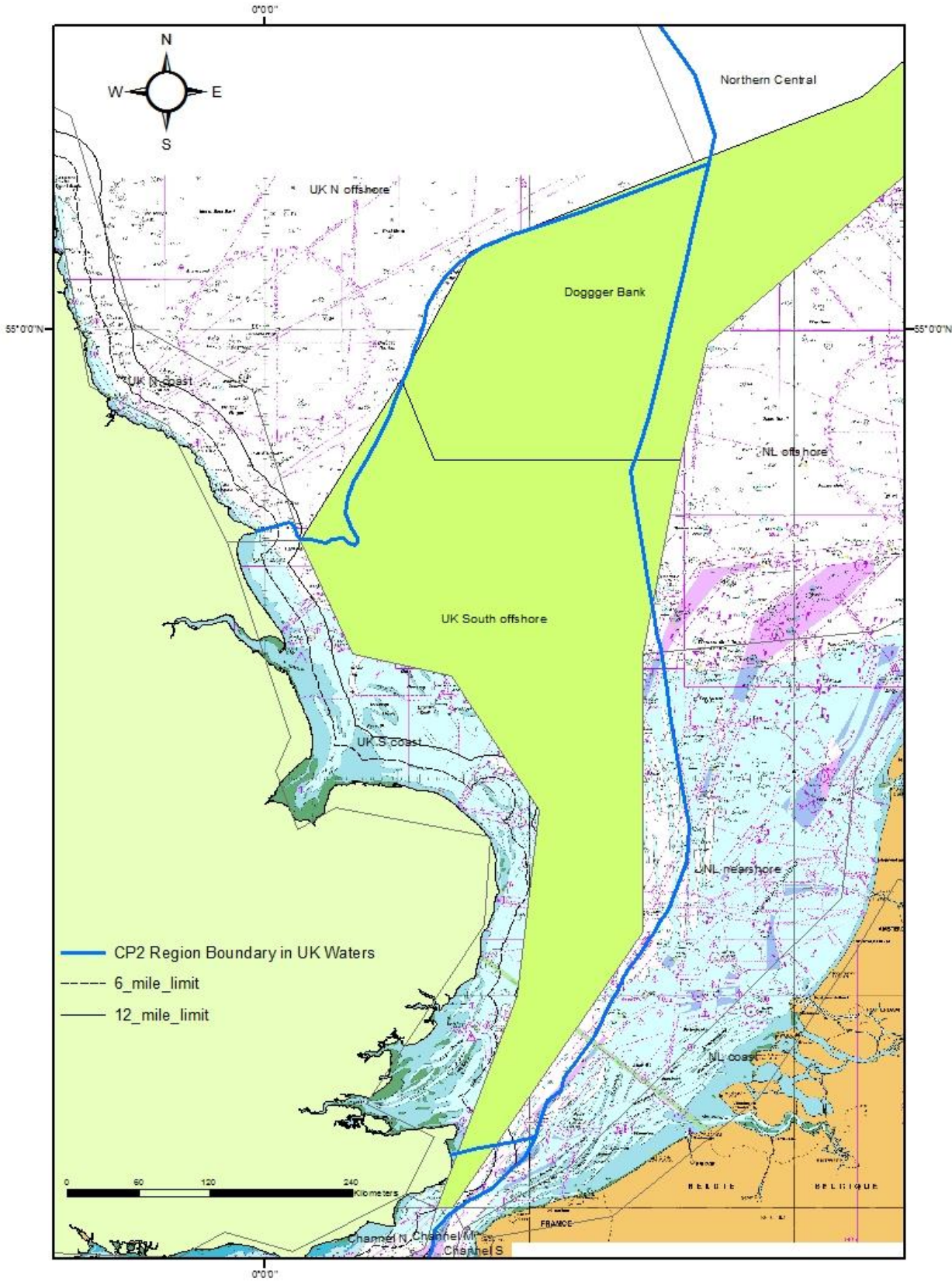


Figure 2. Stations planned for revisit in the Dogger Bank strata during CEND01/17 survey (UK portion only, namely Stations 5-15, 18-25 & 27).

