THE CENTRE FOR ENVIRONMENT, FISHERIES AND AQUACULTURE SCIENCE, LOWESTOFT LABORATORY, LOWESTOFT, SUFFOLK, NR33 OHT

2017 RESEARCH VESSEL PROGRAMME

PROGRAMME: RV CEFAS ENDEAVOUR: SURVEY 4/17

STAFF:

Part One	Part Two
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DURATION: 6 March – 4 April 2017

LOCATION: Celtic Sea, South Western Approaches (ICES Division VII f,g,h), Western English Channel (ICES Divisions VIIe)

PRIMARY AIMS:

1) To carry out an integrated monitoring survey of the Celtic Sea, south-western approaches and the western Channel using a random stratified survey design for the purposes of providing fish stock assessment data and the collection of associated ecosystem information.

   A) Deployment of two standardised 4m beam trawls. One trawl with blinder fitted; one with no blinder fitted. Catches from the trawls will be processed to obtain information on:
   - Distribution, size composition and relative abundance of fish, shellfish, cephalopods, and benthic invertebrates.
   - Age-length distribution of selected fish species.
   - Biological parameters of selected species.
   - Distribution of fish in relation to their environment.
   - Distribution of macrobenthos and anthropogenic debris.
   - Length, weight & maturity information in support of the EU Data Regulation.

The data obtained from processing the trawl catches is collected in support of the EU Data Collection Framework (DCF) and will be submitted to ICES working groups and will also support other Cefas biological studies.

B) Water column sampling. Water column profile and water samples using a Niskin with ESM2 logger will be collected at each trawl station, providing profile information for chlorophyll, oxygen, salinity temperature, nutrient samples and the relevant QAQC samples for calibration of the equipment. Water samples will be collected and fixed on board for analysis post-hoc. Vertical plankton nets/ring nets will also be deployed.

C) Sediment and benthos at a station. Sediment sample(s) will be collected at one end of the tows along the trawl transect using a mini-hammon grab or Nioz corer. These samples will be used for collecting the following data:

- The benthic macro infauna (5mm sieve)
- Benthic infauna (1mm sieve)
- Sediment particle size analysis
- Bulk Chlorophyll
- Bulk Nutrients
- Meiofaunal sample /core

D) Sediment redox. SPI camera dips (with upto 5 replicates at each location) will be collected at one end of the tow. These data will be linked to the sediment and benthic samples so should occur at an equivalent site to those samples.

E) 2m beam trawl deployments. Where SPI camera deployment is not possible, a 2m beam trawl may be deployed to supplement and provide contrast to the fish/benthic catches observed in the 4m beams.

2) To continuously log sub-surface (3m) salinity, temperature, fluorometry and other environmental data using the 'Ferrybox'. Additionally, a Flowcytometer (phytoplankton) and FlowCam (zooplankton) may be run in conjunction with the Ferrybox.

3) To record details of surface sightings of any marine mammals, sea turtles and large pelagic fish, and record observations on jellyfish aggregations.

SECONDARY AIMS:

4) Collect water samples for caesium & tritium analysis under SLA22 (T Bailey – Cefas Lowestoft).

5) To tag/release specimens of various commercially exploited skates (Rajidae) and other selected elasmobranches.

6) Collect specimens of selected species for ID purposes as well as length-weight measurements where still required.

7) To collect length and weight measurements of jellyfish caught.

8) To collect specimens of cuttlefish to aid identification and for Cefas on-going projects.

9) To collect other samples in support of active Cefas projects.

PLAN:

RV Cefas Endeavour will sail from Swansea on the 6th March. A shake-down tow will be carried out at nearest planned survey sampling location to fully test all survey sampling gear, equipment and software systems. Following this, the vessel will head towards the primary survey area of the western Channel completing other Celtic Sea sampling stations en-route. At each survey location, a series of sampling activities will be conducted that comprise deployment of 4m beams; CTD profiling using ESM2 logger and Niskin sampler; sediment sampling using Hammond grab; SPI camera deployment and 2m beam trawling. Upon completion of 81 sampling locations in this area, a further 50 sampling locations in the Celtic Sea and the South-West approaches will be sampled.

It is anticipated that a mid-survey break will occur around day 13 of the survey (18th March) with the location likely to be Falmouth. This will allow for a changeover of scientific staff and vessel's officers and crew and for the vessel to take on fresh supplies as necessary.

Upon completion of the survey, CEND will dock in Lowestoft on the 4th April and unloading of equipment will be carried out the same day.

I D Holmes
Scientist-in-charge
29th November 2016

INITIALLED: S Kupschus / S Ware

DISTRIBUTION:

Survey personnel +
S Kupschus
T Bailey
Cefas Fisheries/MPA Survey SICs/2ICs
Cefas Trim
J Maitland (P&O)
B Salter (P&O)
Master (Cefas Endeavour)
FCO (for France & Ireland)
Marine Management Organisation (MMO)
Welsh Government (WG)
Devon & Severn IFCA
Cornwall IFCA
Isles of Scilly IFCA
Southern IFCA
A Knights (Natural England)
Crown Estate
States of Jersey
Bailiwick of Guernsey

Figure 1 – Map of randomly selected stations for the 2017 survey (blue = intended; green = alternate sampling positions)