Centre for Environment Fisheries & Aquaculture Science

Cefas

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

2019 RESEARCH VESSEL PROGRAMME

PROGRAMME: RV CEFAS ENDEAVOUR: SURVEY 04 - 2019

STAFF:

Part One	Part Two
I Holmes (SIC)	I Holmes (SIC)
J Silva (2IC)	S Walmsley (2IC
M Whybrow	M Whybrow
G Eastley	G Eastley
K Duggan	K Duggan
S Ware	L Readdy
T Noble-Jones	R Bullimore
T Woods	J Smith (~week 3)
L Mann	S Smith (~week 4)
K Vanstaen	A Neish
K Maltby	A Molina-Ramirez
G Burt	H Close
B Silburn	J Hawes
J Pettigrew	C Jennings
A Bodle	N Hampton
J Scott (PHD Student)	N Almeida
	M Wild
	J Scott (PhD Student)
	L Barnwell (Irish Observer)

DURATION: 16 March – 14 April 2019 (30 days)

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.

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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 two/three time a day, providing profile information for chlorophyll, oxygen, salinity temperature, nutrient samples and the relevant QAQC samples for calibration of the equipment.

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-Hamon grab. These samples will be used for collecting the following data:

- The benthic macro infauna (5mm sieve)
- Benthic infauna (1mm sieve)
- Sediment particle size analysis

d) Sediment redox. SPI camera dips (with up to 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 plankton image analyser (PIA) for zooplankton will 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.

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SECONDARY AIMS:

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

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

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

4. To collect length and weight measurements of jellyfish caught.

5. To collect other samples in support of active Cefas projects.

6. To recover and replace a wave-rider close to the Isles of Scilly (D Pearce – Cefas Lowestoft)

7. To collect otoliths from Ballan Wrasse (Labrus bergylta) to aid future Cefas fish ageing studies (J Smith – Cefas Lowestoft).

8. Collect nutrient samples from surface sea-water supply in support of the ASMIAE project (N Greenwood - Cefas Lowestoft).

9. Collect specimens of *Solenocera membrancea (P McIllwaine - Cefas Lowestoft).*

10. Collect a plankton ring-net sample at the Gabbard location. (S Pitois – Cefas Lowestoft).

PLAN:

Staff will travel to Falmouth to join the vessel on 14/15 March and sailing will take place early on the 16 March.

A shake-down tow will be carried out at the nearest planned survey sampling location to fully test all survey sampling gear, equipment and software systems. Following this, the vessel will fully engage in the western Channel survey operations. At each survey location, a series of sampling activities will be conducted that comprise deployment of the 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 17 of the survey (1 April) with the location likely to be Falmouth or Fowey. This will allow for a changeover of scientific staff and for the vessel to take on fresh supplies as necessary.

Upon completion of the survey, the Cefas Endeavour will dock in Lowestoft on the late tide of 14 April and unloading of equipment will likely be carried out the same day.

I D Holmes
Scientist-in-charge
4 February 2019

INITIALLED: S Ware

DISTRIBUTION:

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

Figure 1 – Map of randomly selected stations for the 2019 survey (blue = intended; green = alternate sampling positions)