CEFAS RESEARCH VESSEL PROGRAMME

RV CEFAS ENDEAVOUR
SURVEY: C END 14 – 2020

STAFF:

Name	Role
B Hatton	**SIC**
R Humphreys	**2IC**
L Straker Cox	
S Roslyn	
P Randall	
G Robson	
M Wild	

DURATION: 28 July – 30 August 2020 (tbc)

LOCATION: North Sea (ICES divisions IVa, b and c)

PRIMARY AIMS:

1. To carry out a groundfish survey of the North Sea (Figure 1) as part of the ICES coordinated IBTS, using a hybrid GOV trawl in order to obtain information on:

    a. Distribution, size composition and abundance of all fish species caught.
    b. Age – length distribution of selected species.
    c. Distribution of fish in relation to their environment.
    d. Distribution of macrobenthos and anthropogenic debris.
    e. Surface and bottom temperature and salinity data using ESM2 profiler/mini-CTD logger and Niskin Bottle.
    f. Length weight & maturity information using individual fish measurements, in support of the EU Data Regulation.

2. Collect surface sea water samples for Caesium/Tritium testing to be performed post-survey.

3. Conduct multiple tows to investigate king scallop (*Pecten maximus*) maturity in closed fishing grounds using Newhaven scallop dredges.

SECONDARY AIMS:

4. Tag and release specimens of starry smooth-hound *Mustelus asterias*, greater-spotted dogfish *Scyliorhinus stellaris,* spurdog *Squalus acanthias*, tope *Galeorhinus galeus*, common skate *Dipturus batis* species-complex, and blonde ray *Raja brachyura,* in

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support of the ICES Working Group for Elasmobranch Fishes work to inform on stock units for demersal elasmobranchs.

5. To freeze any unusual fish species for subsequent identification / verification in the laboratory, including specimens of eelpout (*Zoarces, Lycodes* and *Lycenchelys*), sea scorpions (Cottidae, sub-area IVa only), and any unusual fish species, which may also be used in otolith research.

6. To retain any dead specimens of tope (*Galeorhinus galeus*) and common skate (*Dipturus batis* species-complex) for biological studies.

7. Retain any dead specimens of shad and lamprey for biological studies.

8. Collect fisheries acoustic continuously data at four operating frequencies (38 kHz, 120 kHz, 200 kHz and 333kHz), using the Simrad EK60 split beam sounder. The data will contribute to the existing 15 year time series of acoustic data in the North Sea and will be used as part of the Defra funded project Poseidon (MF1112) to monitor changes in mackerel distribution and abundance.

9. Cetacean observations will be recorded where possible and sent to the Sea Watch Foundation.

10. Identification, count, measure and weight all jellyfish caught in GOV trawl will allow the continuation of the North Sea August Jellyfish dataset started in 2012; As the dataset grows from year to year, this should allow the evaluation of changes in jellyfish community and biomass with time.

11. Collect squid egg samples to map spawning grounds. This could be highly relevant in studying squid stock's structure. Retain any specimens of *Loligo* (not L. forbesi – keep all if in doubt) and all ommastrephid squids (Illex, Todaropsis, Todarodes) for maturity and age analysis, respectively. 25 Alloteuthis are to be retained for maturity and age analysis.

12. To collect biological information from four-bearded rockling *Enchelyopus cimbrius*. Including length, weight & maturity information.

13. Collect, retain and filter surface water samples from Ferrybox underway water supply every 12 hours (or once a day) for subsequent chlorophyll sampling in support of SLA25.

14. Zooplankton plankton sampling using ringnets to collect samples from the Gabbard smart buoy site.

15. Retain examples of epibenthos from GOV catches across multiple fishing stations. These will be examined for toxins related to PST (Paralytic Shellfish Toxin) to highlight potential areas of concern.

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PLAN:

RV Cefas Endeavour will sail from Lowestoft at approximately 05:30 (tbc) on 30 July 2020 and proceed to stations in the southernmost North Sea as detailed in Figure 1 and start the IBTS survey at prime station 1. The survey will then work northwards with hope of completing all prime stations and transiting back to Lowestoft for docking approximate 14:00 hours (tbc) on 26 August.

GEAR:

List distributed and marked to relevant individuals for action. Briony Silburn for aim 1d, Trevor Bailey for aim 2 Ewen Bell for aim 3. Jim Ellis for aims 4, 5 & 6, Tea Basic for aim 7, Jeroen Van Der Kooij for aim 8, Sophie Pitois for aims 10 & 14, Vlad Laptikhovsky for aim 11 , Louise Cox for aim 12, Naomi Greenwood for aim 14 and Andrew Turner for aim 15.

B Hatton
Scientist in Charge

22 July 2020

DISTRIBUTION:

Survey participants +

B Silburn
A Turner
T Basic
V Laptikhovsky
G Burt
S Phillips
T Bailey
J Van Der Kooij
J Ellis
I Holmes
S Pitois
N Greenwood
S Walmsley
Marine Tech
Marine Ops
AWSM
BODC

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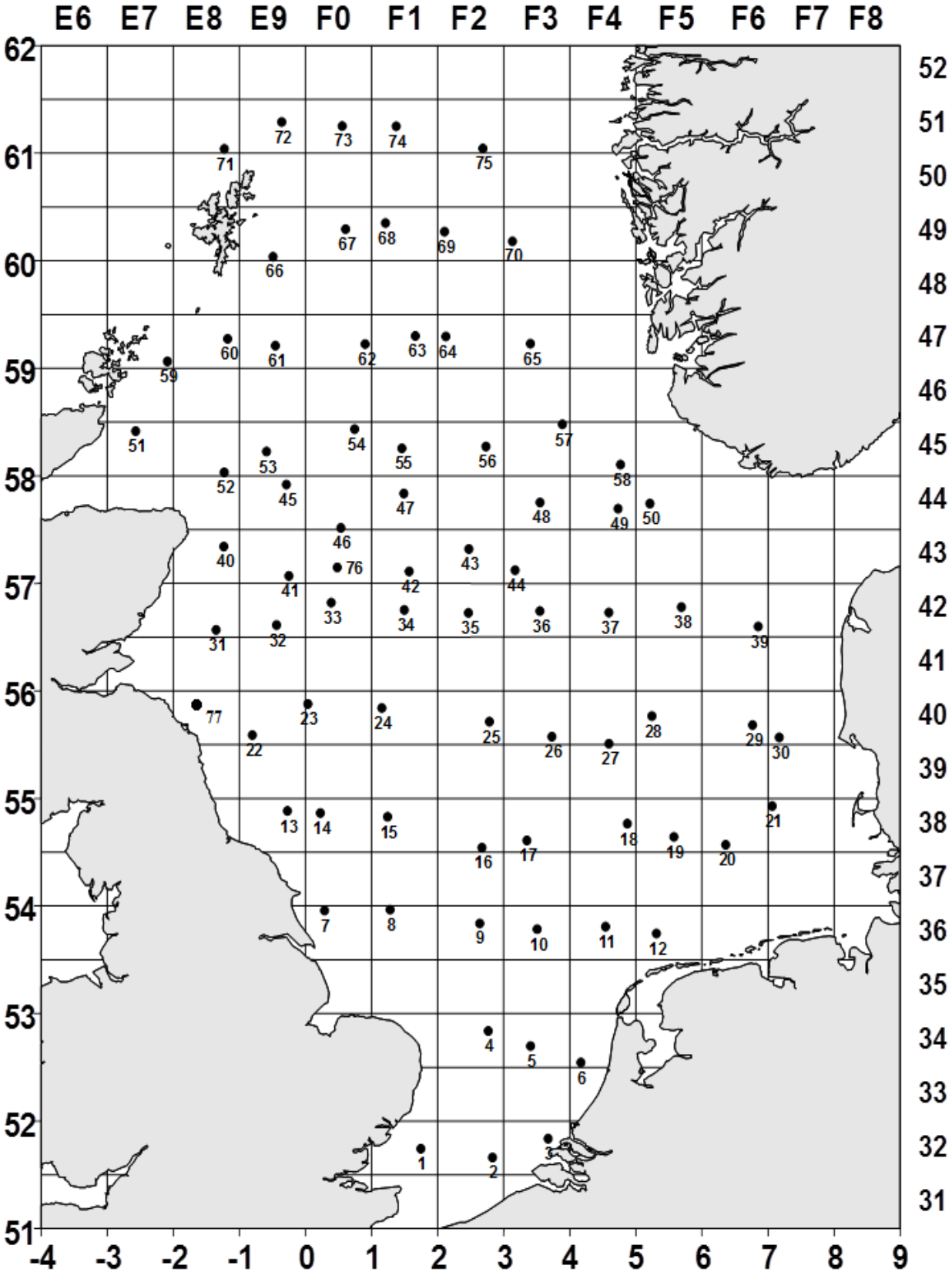
Figure 1: Fishing stations of IBTS North Sea Groundfish Survey



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