

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

2010 RESEARCH VESSEL PROGRAMME

PROGRAMME: RV CEFAS ENDEAVOUR: SURVEY 13

STAFF:

Part A

Fishing:

S McCully (SIC)
B Harley (2IC)
R Humphreys
L Cox
B Hatton
M Eade
D Peach

Part B

S McCully (SIC)
B Harley (2IC)
R Humphreys
L Cox
B Hatton
M Eade

Plus:

R Forster
K Owen
B Queste
L Fernand
PhD student (Essex)
1 JNCC observer

V Creach
K Owen
B Queste
PhD student (Essex)
1 JNCC observer

DURATION: 7 August – 9 September

LOCATION: North Sea

AIMS:

1. To carry out a groundfish survey of the North Sea as part of the ICES coordinated IBTS, using a standard 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 CTD rosette and Niskin Bottle.
 - f) Length weight & maturity information using individual fish measurements, in support of the EU Data Regulation.
2. To determine the diversity of the phytoplankton in relationship with biotic and abiotic conditions.

3. Primary Production and Optics: To calibrate the primary production fluorimeter installed in the Ferrybox setup on Cefas Endeavour . The Turner Phytoflash response will be compared to that of two other commercially-available fluorimeters which will be set to measure continuously in the flowing seawater supply.
4. To determine the variability in key phytoplankton optical and photophysiological parameters from surface and mid-depth waters along the route of the cruise. To perform light and dark acclimation experiments of phytoplankton collected from the flow-through system along the cruise track.
5. To measure profiles of underwater light at all stations on the cruise.
6. Carry out water sampling for Caesium/Tritium for an internal Cefas contract (SLA21).
7. Fish selected stations with 'Poly GOV' in Northern area of the sampling grid.
8. Collect live specimens of buried edible crab, and lobster for the Cefas aquarium at Lowestoft.
9. Collect and fertilise herring eggs onto plates, and incubate in continuous seawater tanks for Cefas aquarium at Lowestoft.
10. Tag and release specimens of cuckoo ray (*Leucoraja naevus*), spurdog (*Squalus acanthias*) and tope (*Galeorhinus galeus*), in support of Defra projects MB5201 and MB5202.
11. Retain by freezing any species which are unusual to the North Sea for ID guide.
12. Retain by freezing whole samples or otoliths of the more unusual species to the North Sea for otolith research.
13. Maturity photos (using protocol) of lemon sole, brill and turbot.
14. Record sightings of sea birds and cetaceans for JNCC and Sea Watch Foundation.
15. Investigate the extent of low oxygen areas that may occur in the southern North Sea and further understand the processes leading to oxygen depletion over the North Sea as a whole. By:
 - a) Deploying the ESM2 logger at many stations over night in the stratified area of the North Sea Oyster grounds to quantify the spatial extent of low oxygen issues. If time permits conduct experiments on oxygen consumption beneath the thermocline.
 - b) Conduct experiments on oxygen consumption, beneath, above and in the thermocline.

PLAN:

RV Cefas Endeavour will sail from Lowestoft on 7 August and fish the stations detailed in Figure 1. Cefas Endeavour will proceed to stations in the southern North Sea and start the IBTS survey. The survey will dock in Aberdeen on the 26 August for a mid-cruise break to allow personnel changes, and if required to have the Scanmar sensors calibrated. The second half of the survey will sail from Aberdeen on 28 August and the survey will continue and dock in Lowestoft on 9 September.

GEAR:

List distributed separately and marked to relevant individuals for action. Trevor Bailey and will supply the equipment needed to carry out Aim 6, and Matthew Eade will supply the equipment needed to carry out aims 8 and 9. Tags and paperwork to carry out aim 10 will be provided by Jim Ellis.

S McCully
18 June 2010

DISTRIBUTION:

Basic list +

S McCully	B Harley
R Humphreys	B Hatton
L Cox	M Eade
D Peach	
T Bailey	Rodney Forster
Veronique Creach	Liam Fernand
Jim Ellis	Mark Etherton
Katy Owen	Bastien Queste
Andy Webb	University of Essex PhD student

Sea Fisheries Committees: East, North-east, Northumberland, Essex and Kent.

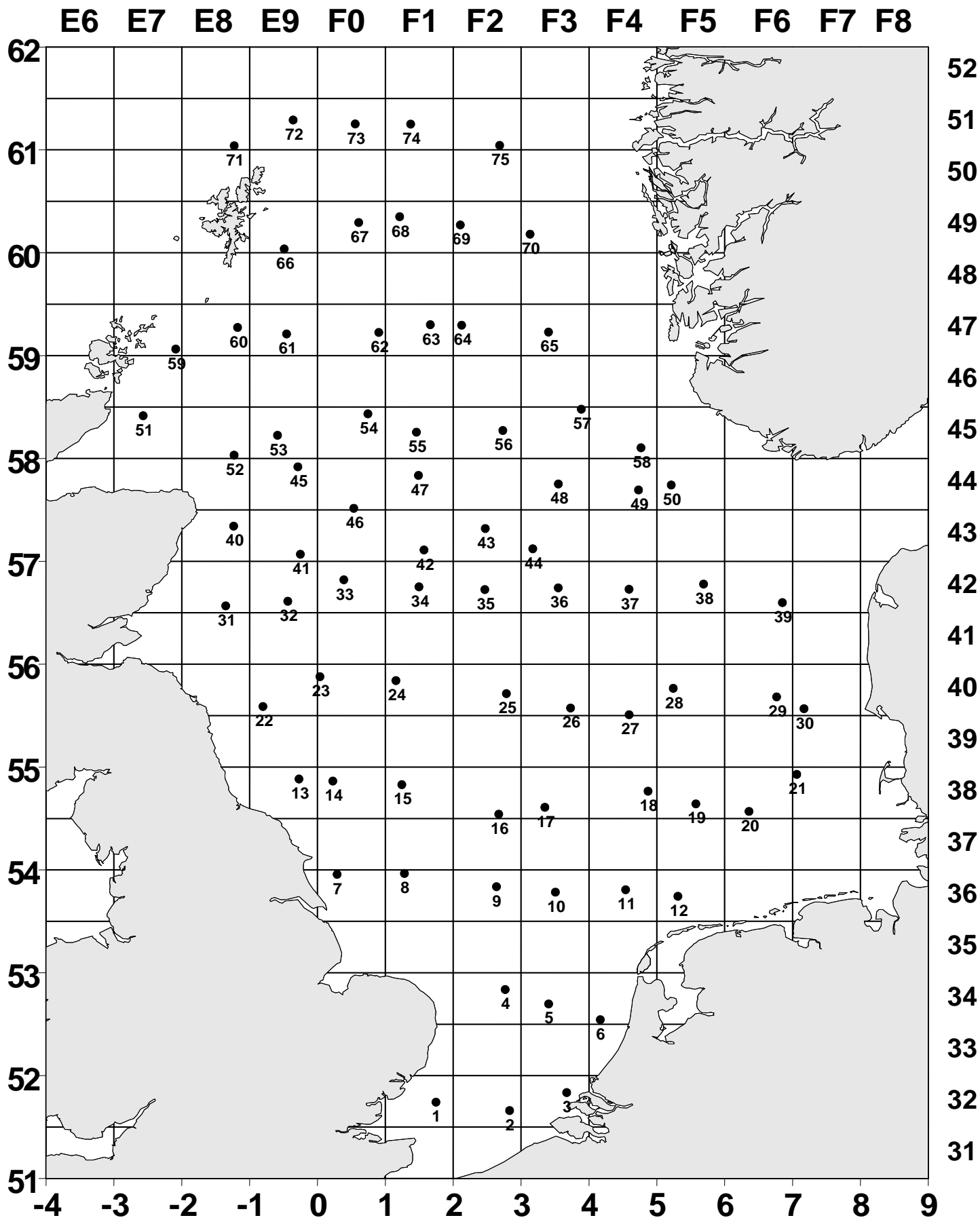


Figure 1: Fishing station of IBTS North Sea Groundfish Survey