

**CENTRE FOR ENVIRONMENT, FISHERIES AND AQUACULTURE  
SCIENCE**

**LOWESTOFT LABORATORY, LOWESTOFT, SUFFOLK NR33 0HT**

**2008 RESEARCH VESSEL PROGRAMME PROGRAMME: RV CEFAS  
ENDEAVOUR: CRUISE 03/08**

**STAFF:**

- John Pinnegar (SIC)
- Georg Engelhard (2IC)
- Mark Etherton
- Christie Stewart
- Louise Cox
- Benjamin Hatton
- Panayiota Apostolaki
- Kirsten Abernethy (student, UEA)
- Gillian Kelly (observer, Ireland)

**DURATION:** 8-21st February.

**LOCATION:** Irish Sea (Liverpool Bay, off Dundalk/Dundrum Bay)

**AIMS:**

1. Carry out simultaneous acoustic and trawl surveys of known cod, haddock and plaice spawning areas to examine whether the different techniques yield a different perception of fish distribution and behavior in the water column.
2. Carry out comparative trawl tows during daylight and darkness to examine whether the different techniques yield a different perception of fish distribution and behavior in the water column.
3. Collect information on the body condition (including weight, and hepatosomatic index), and reproductive status (sex, age, maturity, gonad weight) of cod, haddock and plaice on spawning grounds in the Irish Sea.
4. Collect biopsy samples from the ovaries of female cod and plaice, to determine the reproductive status, egg size and maturity etc. (for MEMFISH and ISEPS projects).
5. Determine whether plaice, haddock and cod in spawning aggregations are consuming food, and if so – what, by examining stomach contents and stomach fullness.
6. Tag and release adult cod, haddock and plaice on spawning grounds using ‘conventional’ (non DST) tagging techniques, to determine possible movement patterns in the east and west Irish Sea.

7. Determine the habitat characteristics (depth, bottom profile, temperature, salinity) associated with cod, haddock and plaice spawning aggregations, using acoustics, CTD data (attached to the trawl net) and monitoring of the ships continuous seawater intake system.
8. Record any sightings of the jellyfish *Pelagia noctiluca*, marine mammals and sea turtles.

**PLAN** (all times GMT):

- Weather permitting Endeavour will set sail from Belfast on the morning of the 8th February and cross the Irish Sea to Liverpool Bay, ideally arriving at station A1 () by 17:00. Trawling using the 4M beam trawl will commence at ~18:00 and continue until ~00:00. 3 stations will be surveyed during this initial 6 hour shift.
- Tows will be for 30 minutes, after which the catch will be sorted and measured.
- Trawling will re-commence following breakfast on the morning of the 9<sup>th</sup>, covering the same 3 stations as the night before. This pattern of 'day' and 'night' shifts will continue until the afternoon of 14<sup>th</sup> February (12 shifts) or until the grid of 18 stations has been covered (by day and night).
- On the evening of the 14<sup>th</sup> February *Cefas Endeavour* will cross the Irish Sea to station "B18" (53° 14.9'N, 5° 33''W) near Dublin, during which time the gear will be changed to PHHT (Portuguese High-Headline Trawl) in time for the morning shift, which will hopefully begin at ~08:30.
- 3 trawl tows with the PHHT will be carried out (for either 30 or 45 minutes each) per shift, and this pattern of 'day' and 'night' shifts will continue until the afternoon of 20<sup>th</sup> February (12 shifts) or until all 18 stations of "Grid B" have been covered.
- From station B1 (54° 22.9'N, 5° 17.7''W) the vessel will sail northwards to Belfast. The current plan is to dock in Belfast on the morning of the 21<sup>st</sup> February.

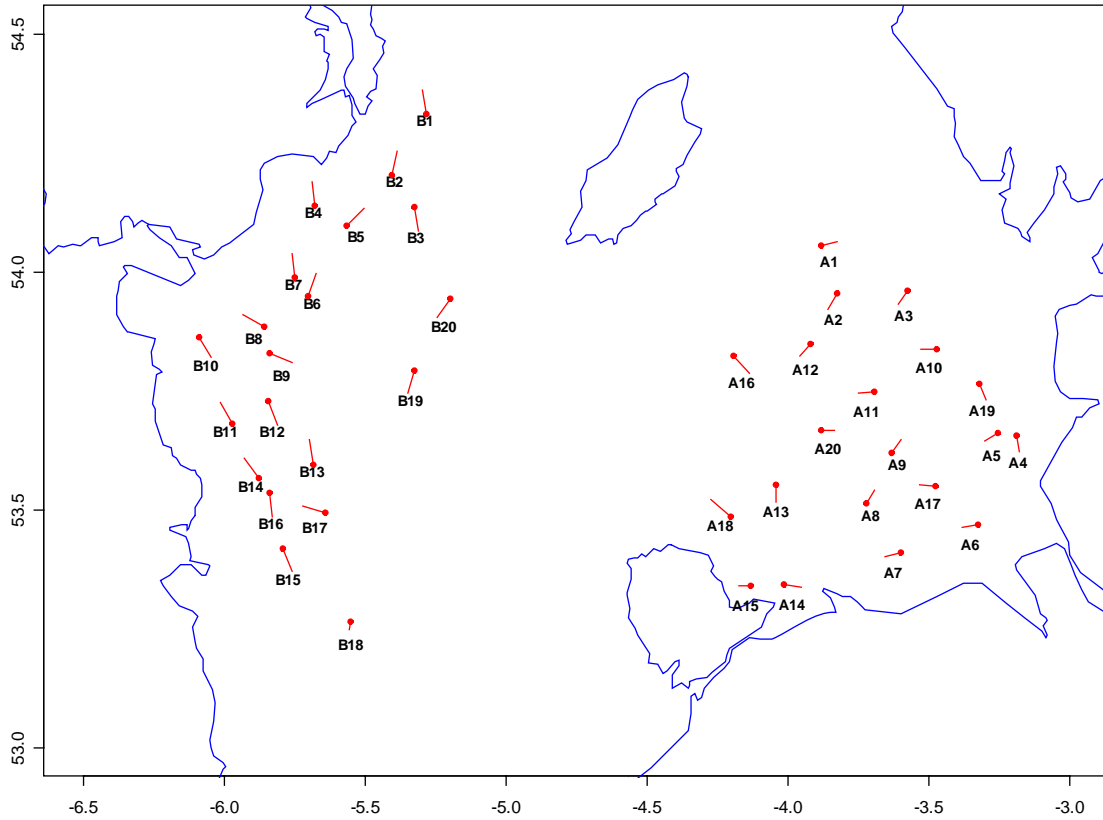
**GEAR:**

Full gear list was distributed on 21st December 2007. Key components include:

- PHHT (Portuguese High-Headline Trawl)
- 4m Beam trawl
- Electronic Data Capture (EDC) system
- EK60 scientific splitbeam sounder, EM3000D (multibeam).

## Station Positions:

2 grids of 18 stations (1 grid in the east and 1 in the west) based on existing Northern Irish groundfish survey tow positions (“Grid B”) and UK beam-trawl survey tow positions (“Grid A”). In each case, two additional tows are listed which will be surveyed if time permits.



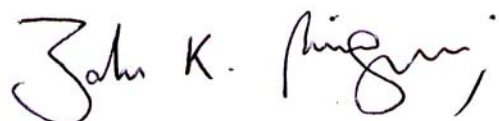
## “Grid A” Tow Positions (Eastern Irish Sea)

The gear is towed at 4 knots (over the ground) for 30 minutes, averaging 2 nautical miles per tow.

Station	Shooting position				Hauling position			
	Latitude	Longitude	Latitude	Longitude	Latitude	Longitude	Latitude	Longitude
A1	54	3.8	3	49.5	54	3.3	3	52.9
A2	53	55.3	3	51.5	53	57.3	3	49.5
A3	53	55.9	3	36.4	53	57.6	3	34.5
A4	53	37.3	3	10.9	53	39.3	3	11.3
A5	53	38.6	3	18.1	53	39.7	3	15.2
A6	53	27.8	3	23.1	53	28.1	3	19.6
A7	53	24.1	3	39.3	53	24.6	3	36.0
A8	53	32.5	3	41.6	53	30.7	3	43.2
A9	53	38.8	3	36.0	53	37.1	3	37.9
A10	53	50.2	3	31.6	53	50.2	3	28.4
A11	53	44.6	3	45.1	53	44.8	3	41.5
A12	53	49.3	3	57.4	53	50.9	3	55.3
A13	53	31.0	4	2.5	53	33.2	4	2.5
A14	53	20.2	3	57.3	53	20.5	4	0.8
A15	53	20.3	4	10.4	53	20.3	4	7.8
A16	53	47.2	4	8.1	53	49.4	4	11.5
A17	53	33.1	3	31.9	53	33.0	3	28.6
A18	53	31.3	4	16.5	53	29.1	4	12.1
Additional								
A19	53	43.9	3	17.9	53	45.9	3	19.3
A20	53	40.0	3	50.0	53	40.0	3	53.0

## “Grid B” Tow Positions (Western Irish Sea)

Station	Shooting position				Hauling position			
	Latitude	Longitude	Latitude	Longitude	Latitude	Longitude	Latitude	Longitude
B1	54	22.9	5	17.7	54	19.8	5	16.8
B2	54	15.1	5	23.2	54	12.2	5	24.2
B3	54	5.2	5	18.7	54	8.1	5	19.4
B4	54	11.3	5	41.3	54	8.3	5	40.7
B5	54	7.9	5	30.3	54	5.8	5	33.8
B6	53	59.7	5	40.4	53	56.9	5	42.2
B7	54	2.2	5	45.6	53	59.3	5	45.0
B8	53	54.6	5	56.0	53	53.1	5	51.5
B9	53	48.6	5	45.4	53	49.7	5	50.2
B10	53	49.2	6	2.6	53	51.8	6	5.4
B11	53	43.5	6	0.7	53	40.9	5	58.3
B12	53	40.7	5	48.6	53	43.7	5	50.7
B13	53	38.8	5	41.7	53	35.6	5	40.9
B14	53	36.5	5	55.8	53	34.0	5	52.6
B15	53	22.3	5	45.4	53	25.0	5	47.5
B16	53	29.1	5	49.6	53	32.1	5	50.3
B17	53	30.5	5	43.3	53	29.6	5	38.3
B18	53	14.9	5	33.2	53	15.9	5	33.0
Additional								
B19	53	44.6	5	21.0	53	47.5	5	19.4
B20	53	54.2	5	14.8	53	56.6	5	11.7



John K. Pinnegar  
 Scientist In Charge  
 25th February 2008

### DISTRIBUTION:

Basic List +  
 Staff on cruise

Ewan Hunter (Cefas)  
 David Righton (Cefas)  
 Mike Armstrong (Cefas)  
 Peter Witthames (Cefas)  
 Steve Milligan (Cefas)  
 Alex Tidd (Cefas)

FCO (for Republic of Ireland)

Sea Fisheries Committees:

- Cumbria
- North Western and North Wales