

**DEPARTMENT FOR ENVIRONMENT, FOOD AND RURAL AFFAIRS
CEFAS, LOWESTOFT LABORATORY, SUFFOLK, ENGLAND
2009 RESEARCH VESSEL PROGRAMME**

PROGRAMME: RV CEFAS ENDEAVOUR: CRUISE CEND 2/09

STAFF:

1. Georg Engelhard (SIC)
2. David Righton (2IC)
3. Mark Etherton
4. Ian Holmes
5. Christie Stewart
6. Benjamin Hatton
7. Louise Cox
8. Julian Martin
9. Kirsten Abernethy (student, UEA)
10. Galway observer (tentative)

DURATION: 7 – 18 February 2009

LOCALITY: Irish Sea

AIMS:

1. To assess the abundance and distribution of cod at known cod spawning areas in the Irish Sea through simultaneous acoustic and trawl surveys
2. To assess the size and age composition of the spawning cod population through data on trawl catch compositions (including collection of otoliths)
3. To assess the biological characteristics of individual cod on the spawning grounds, through information on the size, weight and body condition (including hepatosomatic index), and reproductive status (sex, age, maturity, gonad weight)
4. To collect biopsy samples from the ovaries of female cod to determine the reproductive status, egg size etc.
5. To collect tissue samples for genetic analysis on population structure, through fin-clipping

SUPPLEMENTARY AIMS

6. To assess the presence/absence or abundance of potential predators of cod eggs (such as sprat, herring)
7. To assess the physical characteristics of cod spawning areas
8. To tag plaice in support of PREDATE and MEMFISH, to study plaice movements in the Irish Sea (using Pedersen tags)
9. To remove full stomachs from a variety of fish predators (~30–40 samples) to be frozen and returned to Cefas, to trial a new method of fish id (based on mass-spec derived collagen peptide fingerprints)
10. To examine cod nursery grounds

PLAN

This cruise is focussed on cod spawning grounds in the Irish Sea. We recognise the particular challenge given the rather low population level of Irish Sea cod. The survey will be localised at known cod spawning grounds and the plan is to 'work' 2–4 of these consecutively, depending on success.

On Saturday 7 February, Cefas Endeavour is scheduled to leave Lowestoft with the early morning hightide of 7:17. Over the weekend she will proceed through the English Channel towards the Irish Sea; some trial hauls may be done during this voyage of ~2 days. The gear to be used is the Portuguese high-headline trawl, towing for 1 hour on pre-determined stations. The first survey haul is scheduled for dawn of the 9th. Surveying on cod spawning grounds will continue until dusk on the 17th February. During this time, we will aim to complete 6 to 8 tows per day, commencing just before dawn (aim to haul the first tow of the day at 07:00) and finishing around 19:00 (in 2 shifts of scientific staff each with an experienced deckmaster). Following completion of the scientific survey on the 17th, we will travel to Belfast to dock (high tide ~0500 on the 18th) and exchange staff for the following cruise.

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15 January 2009

DISTRIBUTION:

Basic list + Staff on cruise,

Ewan Hunter, Richard Ayers, Rob Bush, Lorraine Greenwood, Stuart Hetherington,
Steve Milligan, Victoria Quayle, Jeroen van der Kooij,

FCO (for Republic of Ireland)

Sea Fisheries Committees:

- Cumbria
- North Western and North Wales