

Department of Agriculture for Northern Ireland  
Agriculture and Environmental Science Division

**Cruise Report:** LF4796 Larval Herring Survey

**Vessel:** RV *Lough Foyle*

**Dates & area:** 17-20 November 1996 in the Irish Sea (north); ICES div. VIIa

<b>Personnel:</b>	Mark Dickey-Collas	DANI	SIC/HSO
	Willie McCurdy	DANI	SSO
	John Peel	DANI	ASO
	Michael McAliskey	DANI	SO
	Colm Reavey	DANI	SO

**Objectives:**

1. To survey the distribution and abundance of herring larval from the Manx and Mourne Irish Sea stocks, to produce a larval production estimate (index) and provide data on larval drift.
2. To investigate the abundance of euphausiids and other macro zooplankton in the Irish Sea.
3. To collect seawater for food chemistry.
4. To collect zooplankton samples for *Calanus* sp. estimates.

**Cruise narrative**

Sunday 17 November 1996

All scientific crew were onboard by 21:00, and the ship sailed for station 59 at 22:00 (Figure 1). A full safety drill and demonstration were carried out.

Monday 18 November 1996

In good weather with very low winds stations 59-33 were sampled.

Tuesday 19 November 1996

The work continued in worsening weather (stations 34-43) and ceased at 04:30 due to high winds. The ship headed to Port Erin Bay for shelter in winds gusting to strengths of 100 miles an hour. The winds changed direction and the ship had to move to Dundrum Bay at 20:00 for shelter.

Wednesday 20 November 1996

The ship arrive at Dundrum Bay at 00:00 and sheltered until dawn. By 09:00 the winds had dropped to 25-30 miles an hour and 4 stations were sampled (figure 1,

stations 13-30). However the winds rose again, gusting to 60 miles an hour from the north, and the forecasts were bad. So the ship headed for Belfast and docked at 21.30

### Methods

At each station the high speed plankton sampler was deployed to 4m off the sea bed. The temperature and salinity of the water column was monitored with the Pronet system. The plankton samples were sorted and all the fish removed and identified. The herring larvae were measured to the nearest 0.1mm and then fixed in 99% ethanol.

The remaining macrozooplankton were sorted from the plankton samples, identified and weighed to the nearest 0.1g, and then returned to the main sample. The plankton samples were then fixed in 4% buffered formaldehyde and stored.

### Results

Over 2 million litres of sea water were sampled during the cruise. No herring larvae were found in the southern or western part of the survey area (Figure 2). There was no evidence of Mourne larvae in the survey area. As in previous years the Manx larvae had drifted north and East to the Scottish and English coasts.

### Discussion

Although only 28 stations were sampled, the important area north-east of the Isle of Man was comprehensively surveyed. This allows a reasonable estimate of the larval production to be made. The failure to catch any Mourne spawned larvae is consistent with the very low catches in 1994 and the nil catch in 1995, although not all of the region was surveyed. Despite the poor weather the research cruise was relatively successful in terms of estimating Douglas Bank larval production.

### Acknowledgments

Poor weather dominated the cruise after the first day. Work on the *Lough Foyle* in rough seas is not pleasant, and the officers, crew and scientists onboard must be commended for their hard work and determination to see the job through.

Signed

SIC: *Mark Callan*

Date: *27-11-96*

Master:

Date:

Section Head:

*S. J. Heaney*

Date:

*27.11.96*

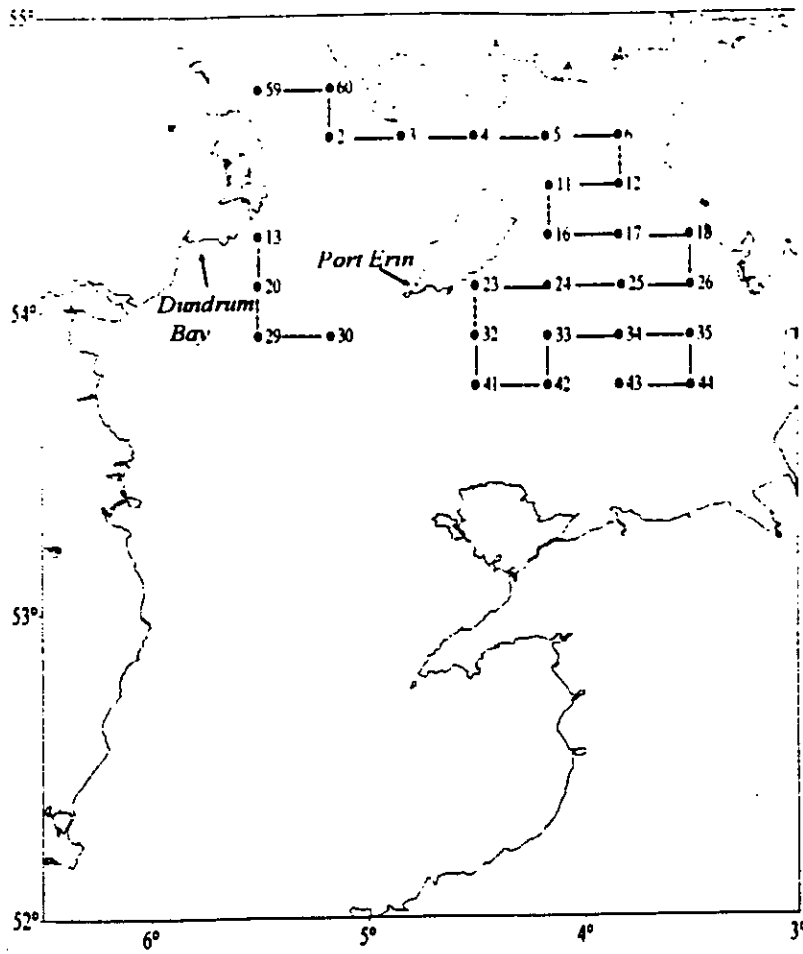


Figure 1 Survey Route of LF4796  
17-20 November 1996

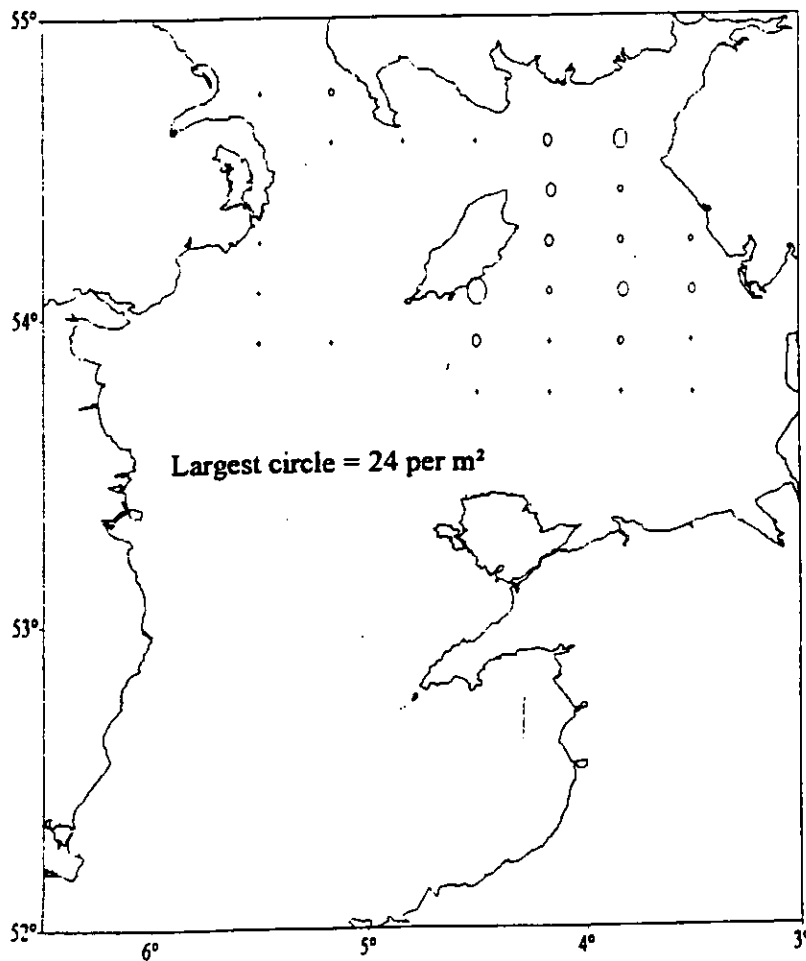


Figure 2 Abundance of  
herring larvae on LF4796