

*Laboratory*

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Cruise Report  
FRV GOLDSEEKER

25 April - 6 May, 1977

Objectives

- 1) To shoot and observe anchored gill nets in Aberdeen Bay
- 2) To measure densities and size composition of Nephrops and burrow densities
- 3) To study the behaviour of Nephrops by day and night
- 4) To measure the selectivity and efficiency of a Nephrops trawl

Narrative

Objective 1) was cancelled. At the start of the cruise it was found that the propellor shaft was still overheating and re-alignment of the engine was carried out on 26 April. The fault recurred intermittently during the first week but had cleared up by the second week of the cruise. Adverse weather conditions restricted the programme to 3 nights work on Nephrops grounds off Nairn. The cruise ended at Buckie at 11.30 hours on 6 May.

Results

Weather conditions and a heavy easterly swell during the cruise prevented use of the stereocameras so that no photographic data were obtained on burrow densities, size composition of Nephrops and trawl selection.

The low-light TV camera with 60 watt red lights was towed on a sledge. This system gave excellent results on the densities of foraging Nephrops at different times of the day and night. The maximum density was 4-5 Nephrops per 100 m<sup>2</sup> of sea bed. These densities were recorded about 1 hour after sunset and 1 hour before sunrise in water depths from 25-50 m. Each activity peak lasted 1-2 hours. 10 video tapes were recorded and these will be analysed in more detail later.

In practice the sledge had to be towed quite slowly ( $< 1\frac{1}{2}$  knots) to be sure of seeing all Nephrops on the screen. This was about 1 knot slower than commercial vessels trawling in the area so that objective 4) was unsuccessful.

The lack of photographic results emphasised the need for the stereocamera (or at least a monocular camera) to be mounted on the sledge in addition to the TV camera for future work.

C J Chapman  
23 May 1977

Seen in Draft - W Reid