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Not to be cited without prior reference to the Marine Laboratory, Aberdeen

MV Heather Sprig

Charter Cruise 0699H

REPORT

30 September - 14 October 1999

Loading: Peterhead

Unloading: Peterhead

Half landing: Peterhead, 7 October

Personnel:

G I Sangster (In charge)

M Breen

R J Kynoch (30 September - 7 October)

M J Burns (7-14 October)

Fishing Gear:

One twin trawl rig with minimum mesh size of 100 mm (codend twine thickness - 6 mm)

One twin trawl rig with minimum mesh size of 80 mm (codend twine thickness - 5 mm)

Objectives:

To obtain catch comparison and engineering performance data from two pairs of *Nephrops* twin trawls fished on the Fladen grounds.

Out-turn costs to project: 15 days to MF06p

Narrative:

Staff travelled by minibus and joined the vessel at Peterhead on 30 September. The scientific equipment and fishing gear were immediately prepared and installed on board *Heather Sprig*. The vessel sailed for the Fladen grounds at 1530 hours that same day. Fishing commenced at 0400 hours the next day and continued as planned, until bad weather caused a 24 hour halt to operations on 4 October. The experimental design of the fishing trials took into account the diurnal emergence rhythms of *Nephrops*, and therefore, fishing took place during the specific periods of dawn, day and dusk with periodic changeovers of the two rigs. Other parameters recorded per haul were fuel consumption, towing speed, trawling depth, wind speed and direction, tidal direction, sea state and vessel roll/pitch. Work continued uninterrupted thereafter until the half-landing was taken at Peterhead, where Mr Kynoch was replaced by Mr Burns. On the evening of 7 October, the ship sailed for the Fladen grounds and commenced fishing at 0400 hours next morning. One further day was lost due to severe gales, otherwise the fishing experiments continued as planned. *Heather Sprig* was offloaded at Peterhead on 14 October and staff returned by minibus to Aberdeen.

Results:

Four fishing areas of the Fladen grounds were used during the trials in depths between 128 and 152 m. Catches ranged between 558 and 1,458 kg of bulk comprising mostly *Nephrops*, haddock, whiting and cod. Twenty hauls of four hours duration were carried out for catch comparison and engineering performance purposes of the 80 mm and 100 mm twin rigs. This produced 10 pairs of catch, gear and environmental data which will be analysed in detail using Generalised Linear Modelling. A further two hauls, each of 2.5 hours duration on the same ground, allowed 'Scanmar' instrumentation to log measurements of the distance between the two nets of both twin rigs. The following gives the mean recorded gear parameters from the 'Scanmar' instrumentation and the mean fuel consumption in litres per hour.

	Twin Rig (80 mm codend)	Twin Rig (100 mm codend)
Door Spread:	123.9 m	124.2 m
Wingend Spreads:	22.5 m (st'bd), 22.6 m (port)	23.9 m (st'bd), 23.5 m (port)
Headline heights:	1.85 m (st'bd), 1.82 m (port)	2.1 m (st'bd), 2.2 m (port)
Spread between nets:	40 m	37 m
Fuel consumption	58.5 L/hour	55.25 L/hour

G I Sangster, 15 December 1999