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Cruise Report

FRV 'Goldseeker'

June 1 - 23 1976

Objectives

1. To study the variation in trawl catches of Nephrops at different times of the day and night.
2. To study the effect of tides on Nephrops catches.
3. To determine the size and sex composition of Nephrops stocks.
4. To study selection by double cod-ends.

Narrative

"Goldseeker" crew and scientific staff joined the vessel at Leith on 1 June. Fishing operations commenced in the Bass Rock area on 2 June and ended on 22 June. "Goldseeker" was based on Anstruther for the duration of the cruise. Passage northwards was made on Wednesday 23 and the scientific staff disembarked at Aberdeen and "Goldseeker" proceeded to Buckie, prior to being slipped at the yard of Herd and MacKenzie on Friday morning. No fishing time was lost. Routine contact was maintained with the Laboratory.

Method

A round-the-clock survey was carried out on 3-4 June and a second similar exercise was mounted on 21-22 June. Comparative fishing using a 70 mm Nephrops trawl with and without 100 m lifting cover was undertaken during the remainder of the trip.

Results

Thirty eight trawl hauls were made using the 70 mm Nephrops trawl. Twenty-two of one hour duration and sixteen of two hour duration made up the fishing time, eight of the two-hour hauls were made with a 100 mm lifting cover. The daylight fishing gave very small Nephrops catches, the best results being obtained during the dusk and dawn periods. The fish catch was very poor, consisting mainly of small common dabs, long rough dabs and a few whiting. 72 cod were taken, the stomach contents of these were examined and 14 (19.4%) of these fish had been feeding on Nephrops.

The size ranges, sex composition and mean carapace lengths of Nephrops caught are given in the following tables. Tables 1, 2 and 3.

Cod end measurements were made periodically giving a mean mesh size of 62.8 mm

Surface temperatures ranged from 10.9°C to 12.9°C

J A Sinclair
30.9.76

Seen in draft by W B Reid

TABLE 1

All Hauls 70 mm Nephrops Trawl and Cod end

Carapace length (mm)	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	Total
Total males	16	361	1799	3417	1861	595	197	47	10	1	8404
%	0.2	4.3	21.4	40.7	22.1	8.3	2.3	0.6	0.1	+	
Total females	11	220	1118	1439	551	292	215	87	14	1	3948
%	0.3	5.6	28.3	36.4	14.0	7.4	5.4	2.2	0.4	+	

76 females were berried (1.92%)

Mean carapace lengths males 32.9 mm Females 32.7 mm

TABLE 2

With 100 mm lifting cover

Carapace length (mm)	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	Total
Males	12	150	777	1360	760	243	73	5	1	1	3402
%	0.4	4.4	22.8	40.6	22.3	7.1	2.2	0.2	+	+	
Females	4	98	511	542	251	119	93	35	4	-	1657
%	0.2	5.9	30.8	32.7	15.2	7.2	5.6	2.1	0.3	-	

mean carapace lengths Males 32.6 Females 32.6

TABLE 3

Without cover

Carapace length (mm)	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	Total
Males	1	140	647	1213	672	269	87	28	3	-	3060
%	+	4.6	21.2	39.6	22.0	8.8	2.8	0.9	0.1	-	
Females	4	80	384	587	179	111	80	24	6	1	1456
%	0.3	5.5	26.4	40.3	12.3	7.6	5.5	1.6	0.4	0.1	

mean carapace lengths Males 33.1 Females 32.7