

In Confidence: Not to be quoted without reference to the laboratory

CRUISE REPORT

FRV "Goldseeker"

19 May - 11 June 1970

Objectives

1. To investigate the distribution, abundance and biology of Pandalus spp and Nephrops in the Firth of Clyde.
2. To investigate the feasibility of mid-water trawling for shrimps from "Goldseeker".
3. To determine the abundance and stock composition of scallops and queens in parts of the Firth of Clyde and the Solway Firth.
4. To take temperature readings and plankton samples.

Narrative

Messrs Howard and Milne joined "Goldseeker" at Ardrishaig on 18 May. S.W. gales prevented the boat crossing to Ayr, and for the first week work was limited to scallop dredging in Kilbrennan Sound.

Messrs. Strange and Shand joined at Ayr on 25 May and the week 25-29 May was spent carrying out trials with a midwater trawl.

Trawling with a standard 70 mm Nephrops trawl and a small mesh whole cover was carried out at the stations shown on the cruise programme.

Dredging using a standard 4 ft scallop dredge was also carried out at various stations between Ardrossan and Bennane Head.

Plankton samples and surface temperature recordings were taken.

Live Pecten maximus were brought back to the laboratory.

Results

Trawling

Midwater trawling: The net was a Gourock midwater trawl no. 1, used in conjunction with Süberkrüb type otterboards and Netzonde equipment. After two attempts, in which the Netzonde gear failed to operate owing to a faulty connection, the equipment worked well. The gear was shot a further three times and towed for periods of 3 hrs, 3 hrs and 2 hrs respectively, with varying lengths of warp and engine revolutions. A graph of depth below the surface of the footrope against engine RPM was prepared from interpretation of the records of the netzonde and ship's echosounder.

Otter trawl

Nephrops were scarce, a total of 395 males and 102 females were taken in 14, $\frac{1}{2}$ hour hauls.

The size ranges and mean carapace length are given in the following table:

Carapace Length mm	20-4	25-9	30-4	35-9	40-4	45-9	50-4	55-9	60-4	Total	Mean Carapace Length
Total ♂	18	77	98	102	71	20	4	4	1	395	35.5
Total ♀	27	43	25	5	2					102	28.3
Berried ♀	1	1								2	26.5

Pandalus sp

Very few Pandalus were caught. Of those taken 60% were males with a mean carapace length of 15.7 mm. The mean carapace length of females was 15.5 mm.

White Fish

Fish catches consisted mainly of small gadoids and flatfish, with a few large cod, hake and saithe. Lumpenus lampetriformis was taken in large numbers.

Dredging

A total of 82 hauls were made in six areas, and a total of 355 Pecten maximus were caught.

The results for each area are tabulated below:

Area	% 4 yr old and under	% 5 & 6 yr old	% 7 yr old and over	Mean Length mm	Total Caught	Average No./15 min Haul
Kilbrennan Squid	18	5	77	118.7	140	5.0
Heads of Ayr	14	14	72	141.7	7	1
Turnberry Pt/ Girvan	28	5	67	134.2	58	4.0
Bennane Head	34	26	40	118.4	47	9.4
Lady Isle	24	13	63	126.6	93	5.5
Ardrossan	-	20	80	125.1	10	1.0

Sharks

Shoals of up to 20 basking sharks were observed inshore between Ayr and Girvan on several occasions.

Plankton and Hydrography

Samples from the Kilbrennan Sound contained large numbers of Calanus finmarchicus, and moderate numbers of Sagitta elegans and Euphausiid furcilia.

Small numbers of fish larvae, mainly those of Haddock, Whiting, Onos, Argentina and Long Rough Dab were also present.

Off Ailsa Craig and Lady Isle, the plankton, though similar in composition was much poorer. Mackerel and Saithe eggs were taken at Lady Isle.

F G HOWARD
22 July 1970