

R1/10

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9 GR 69<sup>4</sup>

## CRUISE REPORT

F.R.V. "GOLDSEEKER"

7 October - 30 October 1969

Narrative "Goldseeker" arrived in Stromness on the afternoon of the 10th after some delay due to weather and radar trouble. Tow net hauls were made on passage and whilst working in Scapa Flow. The comparative fishing programme was started on 13 October, working on commercially fished "Queen" ground in Scapa Flow. A standard 4 ft escallop dredge (12 teeth on bar and bag of  $3\frac{1}{4}$  inch internal diameter rings) and an 8 ft beam trawl (with a heavy chafer on the bag) were fished. After a series of experimental tows it was decided to tow each gear for twenty minutes. This towing time gave scallop dredge bags of up to full, and, with the beam trawl, bags which were liftable without undue bending of the beam.

Fortysix escallop dredge tows and thirty-four beam trawls were made with respective total fishing times of 891 minutes and 802 minutes respectively. Time for shooting, hauling and sorting the catch was noted for each haul. The catch of "Queen's" and the by-catch was sorted into baskets. Samples of "Queens" were measured daily, a number of baskets were counted and part of the catch was estimated - escallops caught were measured for overall length and age.

The programme was concluded on the 29th. "Goldseeker" left Stromness on the morning of the 30th and docked that evening in Buckie.

The size composition of the "Queens" sampled in 5 mm length groups

## 4' Escallop dredge

size	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-84	85-89	90-94	95-99	100-104	105-109	Total
No.	1	2	1	11	35	62	128	59	63	73	161	157	165	53	5	-	976
%	0.1	0.2	0.1	1.1	3.6	6.4	13.1	6.0	6.5	7.5	16.5	16.1	16.9	5.4	0.5	-	

## 8' Beam trawl

No.	8	15	13	69	254	466	788	231	179	238	299	318	242	84	12	1	3218
%	0.3	0.5	0.4	2.1	7.9	14.5	24.5	7.2	5.6	7.4	9.3	9.9	7.5	2.6	0.4	+	

75% of the escallop dredge catch was of commercial size (65 mm length and over) whilst the beam trawl retained many more smalls, and only 50% of its catch was of marketable size. This is due to the selection of the two different gears.

The catching power of the two gears differed considerably. The total catch against fishing time is set out below.

	Fishing time(minutes)	No "Queens"	No. Escallops
Escallop dredge	891	1729	152
Beam trawl	802	16298	52

Escallop dredge:-	"Queens"/	1 ft of	escallop dredge	per 1	mins. fishing	=	0.485
"	"	Escallops/1	"	"	"	"	= 0.045
Beam trawl:-	"Queens"/	"	"	"	Beam trawl	"	= 2.540
"	"	Escallops/	"	"	"	"	= 0.008

In total numbers the Beam trawl was five times as efficient as the escallop dredge in catching "Queens" whilst in terms of "commercial size" queens it was 3.8 times as efficient. The escallop dredge was five times as efficient as the beam trawl in taking escallops.

The mean overall length of escallops caught was 124.5 mm and 90% of the escallops were over nine years of age.

The by-catch consisted of Modiolus modiolus, Echinus esculentus, Asterias rubens, dead shell and gravel. The main constituent of the by-catch in the escallop dredge was M. modiolus, and in the beam trawl E. esculentus. A few small fish, common dab, skate and one plaice were caught.

### Plankton

Tow-nets were taken on the passage to Stromness and in Scapa Flow. Megalopa stages of crabs were the main constituents in the Scapa Flow hauls. The surface sea temperature in Scapa Flow dropped slightly from 11.8°C to 11.3°C, during the cruise.

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10 December 1969