

Indexed
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AMM

FRV "Goldseeker"

Cruise 1/87

REPORT

5-20 January 1987

<u>Personnel</u>	D W McKay	HSO (in charge)
	I M Gibb	ASO

Objectives

- 1 To carry out an echosounder and trawling survey for sprat in inshore waters from the Inverness Firth to Aberdeen Bay.
- 2 To collect live fish (whiting and cod) for aquarium studies.
- 3 To collect water samples for radio caesium monitoring.

Narrative

Scientific staff joined "Goldseeker" at Buckie in the late morning of 5 January but sailing was delayed until early on 7 January because of strong northerly winds. During the period 7-12 January, "Goldseeker" carried out an echosounder survey of the inner Moray Firth, the Inverness Firth and the Cromarty Firth. Trawl hauls were carried out in all the areas where concentrations of echotraces were found. "Goldseeker" returned to Buckie on the evening of 12 January. On 13 January "Goldseeker" attempted to continue the survey in the area off Buckie but had to turn back because of bad weather. No further work was possible until 15 January when "Goldseeker" completed the survey to the area west of Buckie. On 16 January "Goldseeker" surveyed the area from Buckie east to Macduff. During 17 January work was restricted to an echosounder survey because of crew shortage. On 18 January "Goldseeker" again worked off Macduff before deteriorating weather conditions forced the vessel to return to port. With continuing poor weather and no prospect of improvement scientific staff returned to Aberdeen on 19 January.

Results

During the cruise echotraces of fish were found in the inner part of the Inverness Firth, in the inner Moray Firth off Findhorn and Burghead, off Buckie and off Macduff. Of these the densest appeared to be in the Inverness Firth off Kessock, off Longmans Point and off Munloch Bay where the echosounder was unable to distinguish between the fish shoals and the bottom. The areas where the fish shoals were found coincided with the areas of deeper water within the Firth. In the Moray Firth proper the densest traces were found off Findhorn although one dense midwater trace was located off Troup Head.

During the cruise a total of 11 trawl hauls were carried out to identify fish traces with one other being specifically aimed at catching live fish. Catches in the hauls to identify fish traces varied from 1/4 of a basket to an estimated 150 baskets. Of the six hauls made in the Inverness Firth five were largely composed of herring but one estimated to contain 150 baskets was largely composed of sprats. This haul of sprats was made off Munlochy Bay where a large catch composed almost entirely of herring was made a few days earlier. In the area off Findhorn a total of four hauls were carried out. All the hauls were largely composed of sprats but those where the net was towed very close to the bottom contained considerable quantities of small herring and small whiting. Because of the poor weather only one haul was made further east in the Moray Firth. This was made off Macduff and yielded only 1/4 of a basket which was composed of almost equal proportions of herring and sprat.

The sprat caught during the cruise, with the exception of the large haul made in the Inverness Firth, were mostly small (4-9 cm) belonging to the 1986 year class. Those caught in the large haul were in the 10-13 cm length range and belonged to the 1985 year class. The herring caught were almost all small ranging from 7-16 cm and belonging to the 1985 year class. Within the Inverness Firth there was considerable haul to haul variation in the size of the herring caught (Table 1). This may indicate the presence of size stratified shoals within the very small area of the Inverness Firth.

During the cruise two lots of small gadoids (largely whiting) were returned to the Laboratory. A sample of water for radio caesium monitoring was collected off Buckie.

D W McKay

12 March 1987

Seen in draft: A Mair

TABLE 1 Estimated numbers of herring caught within the Inverness Firth

cm	G87/2 Longmans Point	G87/2 W of Munlochy Bay	G87/3 Avoch	G87/4 Kessock	G87/9 Longmans Point	G87/10 W of Munlochy Bay
6						
.5						
7	2		30		15	
.5	24		45		30	
8	47		100	8304	30	450
.5	59		156	18269	30	
9	115		80	24912	60	1350
.5	103		50	19930	30	450
10	49	514	35	21590	15	900
.5	35	514	106	34877	30	450
11	16		261	38198	75	450
.5	9	1028	453	69754	240	450
12	12	6682	656	114595	465	6300
.5	5	9766	425	61450	645	17100
13	5	19532	183	41520	810	38250
.5	5	19532	75	13286	420	17550
14	2	25186	40		330	8100
.5		16962	10	1661	45	2250
15		9252				
.5		2570				
16		1028				
.5		1028				
17		80			15	
.5		480				
18		80				
.5			5			
19						
.5		160				
20		80	5			
.5						
Total	488	114474	2714	468346	3285	94050

