

R1/10

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FRV "Goldseeker"

1 and 2 GR 88

Cruises 1 & 2/89

REPORT

9-18 January and 23 January-10 February 1989

Personnel

J R Hutcheon SO (in charge)
I M Gibb ASO

Objectives

1. To carry out an echosounder and trawling survey for sprat in inshore waters from the Firth of Forth to the Inner Moray Firth.
2. To retrieve a current meter from the Rosyth area.
3. To collect water samples for radio caesium monitoring.
4. To observe the seal population in the Inner Moray Firth.

Narrative

Scientific and ship's staff joined "Goldseeker" on 9 January in Leith and sailed at 0700 the following day. From 10-16 January, "Goldseeker" surveyed the Firth of Forth but was severely hampered by persistent bad weather which made it impossible to survey the outer Forth. The last two days of cruise 1/89 were used to make a passage north to Peterhead with an attempt being made to survey the areas off Montrose and Aberdeen. "Goldseeker" docked in Peterhead at 1430 on 18 January and remained there between cruises, sailing again at 1330 on 23 January. Cruise 2/89 was confined to the Moray Firth and was also dogged by bad weather although the entire survey area was eventually covered. No fish traces suitable for trawling were found in the areas from the Firth of Forth to Fraserburgh, but a total of 11 trawl hauls were made in the Moray Firth, from Troup Head west. Although only five complete days were lost to bad weather during the cruises, a further six days were shortened due to unsuitable or deteriorating conditions.

Scientific staff left "Goldseeker" in Buckie on the morning of 10 February.

Results

The overall impression was of a lack of fish echotraces throughout the areas surveyed and no hauls were made during cruise 1/89. Only the area from Aberlady Bay and Kirkcaldy to Grangemouth was surveyed due to bad weather whilst working in the Firth of Forth. The only echotrace of note was seen in the deep water (50 m) to the north of Inchkeith Island where a scattering layer was found in midwater at a depth of 30-35 m, but it was not felt that this trace was dense enough to warrant trawling. The area from the Bridges west to Grangemouth was surveyed at both high and low tide but no fish traces were seen on either occasion. Although "Goldseeker" was unable to work in the outer Forth, contact

was made with a commercial trawler that had been trying to fish in the Isle of May region. It reported that no marks which were likely to be sprat had been seen. The only other area where fish traces were encountered was between Arbroath and Montrose in 50 m depth where a few midwater "strokes" were seen, and also a scattering layer near the sea bed. Due to worsening weather and difficulties in getting back to the observed midwater marks, no trawl haul was attempted. Contact was made with some commercial trawlers fishing in the area who reported seeing no evidence of sprat in their catches. They also said that the stomachs of the whitefish which they were gutting were full of Norway pout and small whiting.

The picture was much the same in cruise 2/89, with very few fish traces seen throughout the Moray Firth area. The one exception was at Kessock in the Beaully Firth where a very dense trace was observed in 20-50 m depth. This trace was so dense that it was difficult to differentiate between fish and the sea bed. Three trawl hauls were made on this trace with catches of 4-20 baskets being made for only a few minutes trawling. The catch composition for the Kessock area showed 60-75% herring within the length range 11.5-20 cm. Sprats in the same area were in the range 10-14.5 cm. Trawling was carried out at both high and low tide with no perceptible difference in catch composition. Two hauls were made in the area off Nairn both of which produced small catches from small "ticks" on the bottom. The first haul gave a catch of 3/4 of a basket consisting of 50% sprat in the length range 4-13.5 cm, 25% herring from 9-16 cm and 25% juvenile whiting. The second haul only produced 24 fish, all sprat of 4.5-7.5 cm. One haul was made at Munloch in the Inverness Firth on very small marks in shallow water (10 m) giving a very small catch of juvenile plaice and dabs with only four herring. Five other trawl hauls were made on midwater traces but all were unsuccessful. Of these, two were off Troup Head, two off Portsoy and one at Chanonry Point. The length frequencies and catch composition by age of sprat and herring for the successful hauls are given in the accompanying tables and the areas surveyed and trawl positions are given on the attached chart.

A current meter was recovered as planned on 14 January from beneath the Forth rail bridge.

A water sample was collected off Arbroath for radio caesium monitoring. Due to prior commitments, neither of the Aberdeen University staff could join "Goldseeker" during the time that the vessel was working in the Inverness area. However, P Thompson visited the vessel twice to discuss what had been observed by the Laboratory staff on board. No fish traces had been seen in the Alness area of the Cromarty Firth where a radio-tagged seal was known to have been living for some time. One possible food source was suggested as being salmon kelts since "Goldseeker" staff had seen two seals frequently taking salmon in the River Ness while the vessel was in harbour. Several seals were seen in the Kessock area, presumably feeding on the dense clupeid shoal described there. Very little seal activity was observed elsewhere.

J R Hutcheon

4 April 1989

Seen in Draft:

Data from successful trawl hauls "Goldseeker" 1 & 2/89

Sprat/Herring

Haul No	G89/6	G89/7	G89/8	G89/9	G89/10	G89/11
Area	Kessock	Munlochy	Kessock	Kessock	Off Nairn	Off Nairn
Catch %	38/62	0/100	25/75	35/65	50/25	100/0
Length (cm)						
4.0					141/0	
4.5					707/0	2/0
5.0					954/0	5/0
5.5					1201/0	8/0
6.0					2049/0	10/0
6.5					989/0	12/0
7.0					247/4	4/0
7.5					71/0	1/0
8.0						
8.5						
9.0					0/9	
9.5					4/17	
10.0			12/0	60/0	8/26	
10.5	29/0		71/0	241/0	0/33	
11.0	202/0		188/0	483/0	0/44	
11.5	246/21		212/33	543/0	0/41	
12.0	506/0		200/33	1387/231	0/33	
12.5	722/64		518/296	2413/461	0/50	
13.0	679/381		577/985	3739/1960	4/71	
13.5	564/720		530/1413	2111/3690	4/75	
14.0	173/1080		200/1807	483/5419	0/44	
14.5	29/1017	0/3	24/1872	60/4958	0/14	
15.0	0/784	0/1	0/1281	0/3920	0/8	
15.5	0/296		0/493	0/1268	0/2	
16.0	0/169		0/164	0/692	0/2	
16.5						
17.0	0/11					
17.5	0/22		0/18			
18.0	0/11					
18.5						
19.0	0/22					
19.5	0/11					
20.0			0/18			
Total	3150/4609	0/4	2532/8413	11520/22599	6379/469	42/0
Mean length	12.61/14.33	0/14.63	12.66/14.08	12.69/13.17	5.70/12.29	5.99/0

"Goldseeker" 1 & 2/1989

Percentage age composition

		Sprat			
Age		1+	2+	3+	4+
Kessock		0.00	9.66	87.17	3.17
Off Nairn		99.75	0.12	0.12	
		Herring			
Kessock		99.68	0.24	0.08	
Off Nairn		100.00			

Mean length at age (cm)

		Sprat			
Age		1+	2+	3+	4+
Kessock			11.19	12.82	13.12
Off Nairn		5.68	10.00	13.25	
		Herring			
Kessock		14.19	17.96	19.62	
Off Nairn		12.29			

GOLDSEEKER CRUISE TRACK

Cruises 1 & 2/89

