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Charter vessel MV 'Aspire'

Ref H29

REPORT

12-16 February 1990

Personnel

W S Macdonald	SO
W Leiper	Craftsman

Objectives

1. To carry out an echo-sounder survey of the Inner Moray Firth, the Beaully, Inverness and Cromarty Firths in order to investigate the occurrence and distribution of pelagic fish shoals.
2. To sample suitable echo traces using a pelagic trawl.
3. To observe the seal and seabird populations within the survey area.
4. To obtain live fish for experiments currently being carried out at the Laboratory.

Narrative

Scientific staff joined 'Aspire' in Inverness at 1300 on 12 February at which time a Marine Laboratory trawl, PT116, was placed on board and rigged. At the same time, a Furuno/Sony cassette recording system was linked to the ship's colour video echo-sounder to provide a record of echo traces. 'Aspire' then sailed and commenced a preliminary survey of the Kessock area, where dense fish traces had been encountered on previous surveys. Before docking at Inverness in the evening, a trial haul was made to familiarise the crew with the operation of the fishing gear. During the period 13-16 February the area west of a line from Burghead to Tarbat Ness was surveyed, the vessel returning to Inverness each evening. After off-loading the scientific and fishing gear, the Laboratory staff left 'Aspire' at 1600 on 16 February and returned to Aberdeen.

Results

Throughout the area covered by the survey there was a scarcity of fish traces. This finding was supported by commercial fishermen who reported having seen little in the way of pelagic traces in the area. The only concentrations encountered were at Kessock and Chanonry where scattering layers of between five and seven metres in height were seen close to the sea bed in depths of approximately 30 and 20 metres respectively. In both these areas the traces were less dense than those reported from previous surveys. The great majority of mid-water marks, most of which were found in the area between Nairn and Burghead were comparatively small and proved extremely difficult to sample given the small opening of the trawl.

Of the 11 trawls carried out, 6 were successful in as much as samples were obtained although on several occasions the original "target" marks appeared to have been missed and trawling was continued until such time as it was felt that fish had been taken. Catches were small, the largest being three baskets.

No large concentrations of seabirds were seen even in the areas of denser fish traces which were in depths within the diving capability of members of the auk family. Those auks which were observed tended to be singles or in pairs as opposed to "rafts". No attempt was made to quantify the bird population but daily observation led to the conclusion that numbers in the area surveyed were significantly lower than in previous years. Seals were counted on two occasions at the haul-out site at Ardersier but, with the exception of one animal moving rapidly upstream from Kensock towards Farradale, no other seals were observed.

About 30 live whiting were retained and transported to the Laboratory. In addition, two samples of juvenile herring were preserved for parasitological investigation.

W S Macdonald

18 April 1990

Herring (H) and Sprat (S) data from successful trawl hauls, MV 'Aspire', February 1990.
Numbers raised to total catch.

HAUL	Aspire/1		Aspire/5		Aspire/7		Aspire/9		Aspire/10		Aspire/11	
DATE	120290		150290		150290		150290		160290		160290	
TIME	1745		0900		1245		1712		0815		1300	
AREA	Kessock		Chanonry		Off Nairn		Off Nairn		Kessock		Chanonry	
	H	S	H	S	H	S	H	S	H	S	H	S
CATCH %	77	23	92	8	0.4	99.6	19	81	91	9	90	10
LENGTH (cm)												
5.0			0	12					0	40	0	2
5.5			0	26	0	6	0	12	0	84	0	6
6.0	0	3	0	44	0	37	0	108	0	80	0	28
6.5	0	2	0	25	0	116	0	78	0	84	0	8
7.0	1	1	0	15	0	59	0	2	0	28	0	8
7.5	0	1	0	11	0	22	1	0	0	12	0	2
8.0	1	0	3	3			1	0	104	12	0	2
8.5			0	2			1	0	104	0	8	0
9.0	2	0	3	0			1	0	207	0	8	0
9.5	1	0	9	0			4	0	346	0	11	0
10.0	3	0	12	0			7	0	259	0	19	0
10.5	3	0	12	0	1	0	15	0	190	0	27	0
11.0	5	0	12	0			11	0	311	4	53	2
11.5			18	0			3	0	363	8	46	4
12.0	1	0	15	1			1	0	173	8	23	2
12.5	2	0	45	1			1	0	294	8	11	2
13.0			60	2					294	8	27	10
13.5	1	0	180	4					259	16	88	12
14.0	1	0	420	6					328	8	183	8
14.5			917	4					432	4	183	0
15.0			526	0					121	0	88	0
15.5			315	0					35	0	15	0
16.0			45	0					20	0	6	0
16.5			21	0					8	0	6	0
17.0			64	0					24	0	8	0
17.5			139	0					12	0	10	0
18.0			139	0					44	0	18	0
18.5			193	0					28	0	10	0
19.0			209	0					36	0	6	0
19.5			80	0					20	0	6	0
20.0			54	0					12	0		
20.5			37	0					4	0		
21.0			0	0					12	0		
21.5			5	0					16	0		
22.0			5	0					8	0		
22.5												
23.0												
23.5												
24.0									4	0		
TOTAL	21	7	35385	156	1	240	46	200	4068	404	860	96

Raised numbers and size range (cms) of other species

	Haul 1	5	7	9	10	11
Whiting (<u>Merlangius merlangus</u>)	-	-	5 (7-15)	8 (8-18)	300 (10-18)	72 (11-15)
Common Dab (<u>Limanda limanda</u>)	-	-	38 (6-16)	1 (12)	4 (9)	-
Flounder (<u>Platichthys flesus</u>)	-	3 (17)	-	-	-	-
Plaice (<u>Pleuronectes platessa</u>)	-	-	6 (7-11)	-	-	-
Grey Gurnard (<u>Eutrigla gurnardus</u>)	-	-	2 (6-7)	-	-	-
Sandeel (<u>Ammodytes marinus</u>)	-	6 (11-12)	-	-	-	-
Poor Cod (<u>Trisopterus minutus</u>)	-	-	-	-	4 (14)	-
Hook Nose (<u>Agonus cataphractus</u>)	-	-	-	-	132 (6-12)	18 (7-11)
Blennies (<u>Blennidae</u>)	-	-	-	-	44 (14-19)	4 (12-15)
Goby (<u>Gobiidae</u> sp)	-	6 (4-6)	5 (5-8)	-	12 (6-8)	-
Fifteen Spined Stickleback (<u>Spinachia spinachia</u>)	-	-	-	-	4 (14)	-

INNER MORAY FIRTH SURVEY -- CRUISE TRACK

SIL MACDONALD R.323

PLEASE ATTACH TO REPORT OF CHARTER VESSEL MV 'ASPIRE'.

