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FRV "Clupea"
Cruise 9/88

9CR88

REPORT

19 September-4 October 1988

Personnel

G Howard	SSO
D Bova	SO
K MacKenzie (Jnr)	ASO
R Murray	SSKM (19-27 September)
R Dickson	Storeman (27 September-4 October)

Objectives

1. To determine trawl catch rates, sex and size composition, growth and maturity of Nephrops on grounds in the Moray Firth, Firth of Forth, east of Montrose and at Fladen.
2. To study Nephrops distribution in relation to sediment characteristics.
3. To obtain sediment samples for particle size, organic carbon and faunal analysis.

Narrative

Scientific staff joined "Clupea" and gear was loaded at Aberdeen on 19 September.

"Clupea" sailed later that day and headed for the Fladen grounds, arriving there at 0100 on 20 September. Grab sampling at stations on the Fladen was immediately undertaken in deteriorating weather conditions. Numerous attempts were made using a Day grab, but only two sediment samples were obtained. A one hour trawl haul was made, after which "Clupea" returned to Aberdeen.

Leaving Aberdeen on 21 September, "Clupea" steamed southwards, undertook a trawl and grab survey at stations east of Montrose and in the Firth of Forth. A staff change was made during the half-landing at Leith on 27 September. After the half-landing, the trawl and grab programme was continued until 29 September, when "Clupea" headed north to the Moray Firth, arriving there on 30 September.

The vessel commenced a trawl and grab survey at stations in the Moray Firth which was continued until 3 October when "Clupea" docked at Buckie. The scientific staff left "Clupea" and equipment was unloaded on 4 October.

Results

Trawling: Fladen:- one, one hour haul using the small mesh trawl BT11A yielded 8.0 kg of Pandalus borealis

Firth of Forth:- Nine, one hour and four, half-hour hauls were made; one foul haul was made also. The half-hour hauls were made in an attempt to reduce the quantities of small whiting being caught, as fish catches, predominantly "0" group whiting and sprat comprised up to 30 baskets per haul.

Nephrops catches were generally good, ranging from 1.0 to 179.0 kg/hr, mean catch rate being 46 kg/hr. Details of the Nephrops catches from all areas are shown in Table 1.

Samples of the Nephrops were examined for ovary maturity and evidence of pre-moult frequency. Pandalus montagui was present in many hauls, the best catches being off Fort Castle where 16.0 kg/hr were taken. Undersized lobsters were caught in four hauls.

Squids, Loligo and Alloteutlis were also present in most catches.

Montrose area:- Initially, three one hour hauls were made. Sprat and squid (Alloteutlis) were caught but no Nephrops. After adjustments were made to the trawl, a further two one hour hauls were made and Nephrops were caught, at a catch rate of 7.0 kg/hr.

Moray Firth:- Small fish, mainly "0" group whiting were again caught in large quantities up to 68 baskets per hour tow. After three one hour tows, the trawl hauls were reduced to half-hour and a further four hauls made. Very few Nephrops were caught but Loligo was common, with catches of 1.0 to 72.0 kg/hr.

Grab sampling:- Sediment samples were taken from stations along each trawl track in all areas except the Moray Firth. Here, samples were restricted to areas not previously sampled.

General:- Water samples for radio-caesium analysis were collected off Arbroath and Buckie.

G Howard

17 October 1988

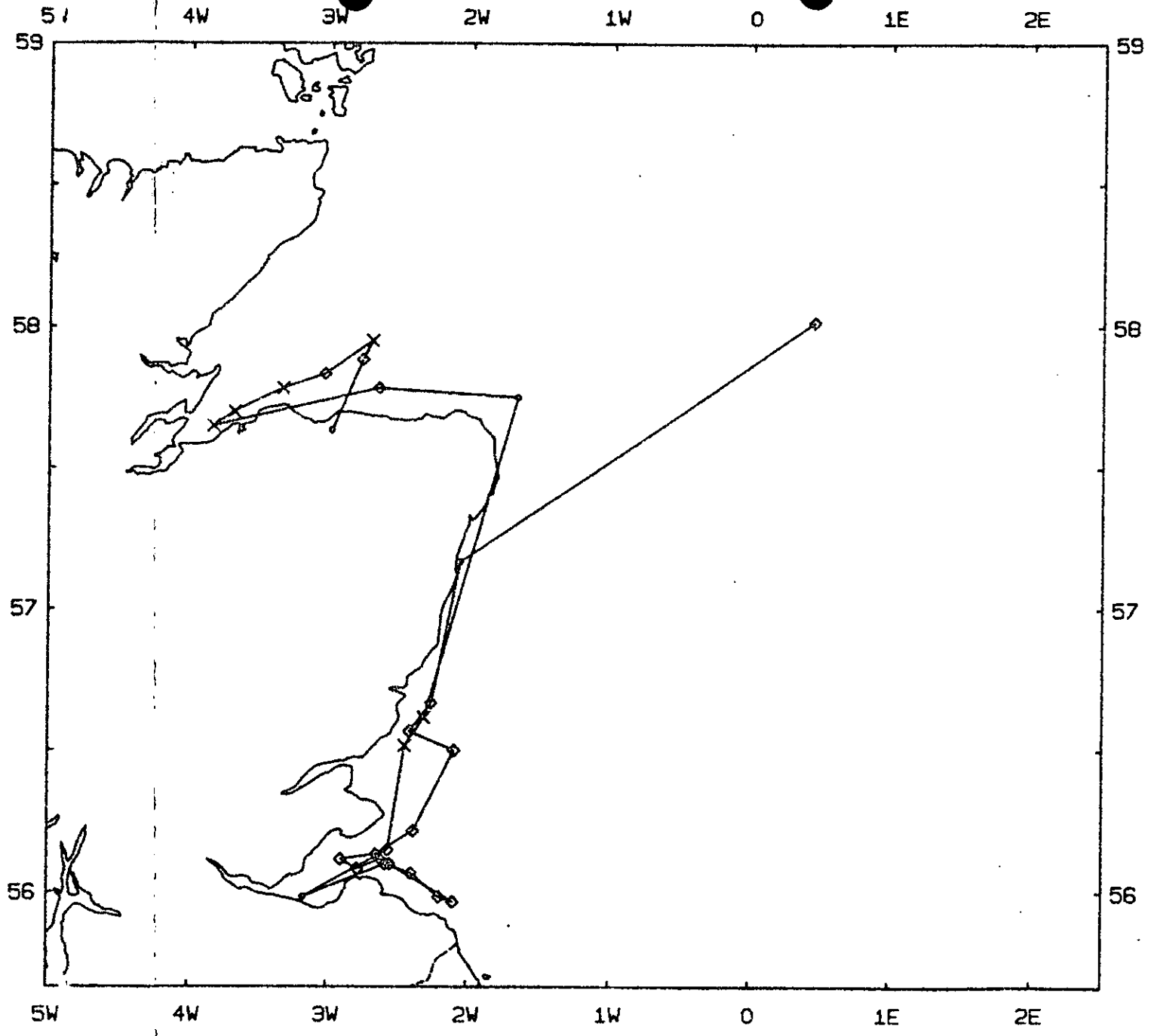
Seen in draft: W Smith

Table 1

Carapace length and sex composition of Nephrops catches by area.

CL mm	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	MCL	Total
Firth of Forth												
(East May Island)												
Males	6	156	656	367	108	21	16	7	1	-	24.3	1338
Females	13	206	884	236	122	35	6	-	-	-	23.1	1502
(West May Island)												
Males	70	1276	9116	5481	1829	567	98	17	-	-	24.7	18454
Females	134	1269	12642	4603	1412	519	126	22	15	-	24.0	20742
Montrose												
Males	-	1	28	57	40	11	7	4	1	-	30.1	149
Females	-	4	55	30	28	28	4	3	-	-	25.1	152
Moray Firth												
Males	-	3	10	5	2	-	-	-	-	-	21.1	20
Females	2	-	8	10	2	2	-	-	-	-	25.8	24

CLUPEA 9/88



◇ Trawl and grab station
X Trawl station

13/8/88